USING EDUCATION TO REDUCE RISK

An overview of disaster risk reduction and how it is promoted through education in the SEE/CIS region
USING EDUCATION TO REDUCE RISK

An overview of disaster risk reduction and how it is promoted through education in the SEE/CIS region
The opinions expressed in this publication are those of the contributors, and do not necessarily reflect the policies or views of UNICEF or UNISDR. These organisations cannot guarantee the accuracy of the data included in this paper. The boundaries, colours, denominations, and other information shown or mentioned in this paper or any map reported do not imply on the part of those organisations any judgment of the legal status of any territory or the endorsement or acceptance of such boundaries.

For further information and to download this or any other publication, please visit the UNICEF CEE/CIS website at www.unicef.org/ceecis.

All correspondence should be addressed to:

Philippe Testot-Ferry
UNICEF Regional Office for CEE/CIS
Education Section
Palais des Nations
CH 1211 Geneva 10
Switzerland
ptestotferry@unicef.org

Copyright: © 2010 United Nations Children's Fund (UNICEF) and ISDR

The South Eastern Europe (SEE) and CIS region has a history of major disasters caused by natural hazards, including earthquakes, floods and extreme temperatures. These frequently devastating events affect all of the populations of the countries involved, with severe social and economic consequences for the most vulnerable people. However, the impact of these natural hazards could be drastically reduced if appropriate disaster risk reduction strategies at regional, national and community level were put in place.

The aim of this report is to further contribute to the process of building resilient nations and communities in the SEE/CIS region, providing an overview of their situation vis-à-vis disaster risk reduction strategies.

This report builds on the Hyogo Framework for Action (HFA) 2005-2015: Building the resilience of nations and communities to disasters, which is promoted and supported by UNISDR and UNICEF. It focuses on the importance of education in disaster prevention, as advanced in the 2006-2007 World Campaign on Disaster Reduction slogan Disaster Risk Reduction Begins at School. It provides general information on national and regional education and disaster risk reduction activities and makes recommendations on how to support and build on local and national initiatives to reduce the risk of disasters through education.
Acknowledgements

UNISDR and UNICEF would like to thank Mr. Sergej Anagnosti, the main author of this review.

The author would like to gratefully acknowledge the organizers and participants of both events attended – the Community-Based Disaster Risk Management Workshop, based on the Hyogo Framework for Action, in Bishkek, Kyrgyzstan; and the South Eastern Europe Civil Military Emergency Planning Council’s Annual Meeting and Working Groups Workshop on Civil-Military Emergency Planning and Preparedness Development in the SEE Region, in Sarajevo, Bosnia and Herzegovina – for their flexibility to accommodate the last-minute registrations and for their understanding and cooperation during meetings and interviews which were held well after regular sessions.

The list of interlocutors includes:

At the Community-Based Disaster Risk Management Workshop:

UNISDR Central Asia office: Ms. Goulsara Pulatova (Senior Advisor) and Mr. Abdurahim Muhidov (Project Coordinator, HFA); Swiss Agency for Development and Cooperation: Mr. Matthias Anderegg (Programme Officer, Disaster Reduction Programme in Central Asia) and Ms. Asel Omoeva (National Programme Officer, Kyrgyzstan); Focus Humanitarian Assistance: Mr. Malik Ajani, Jr. (Programme Officer, Tajikistan); Central Asian Institute of Applied Geosciences: Dr. Bolot Moldobekov (Co-Director), Ms. Lira Joldubaeva (Senior Scientific Adviser) and Ms. Aykanysh Omuralieva (Interpreter, Kyrgyzstan); NGO Man and Element: Ms. Svetlana Tuyleyeva (Director, Kazakhstan); UNICEF Tajikistan: Mr. Salohiddin Shamshiddinov (Programme Assistant, Child Protection, Tajikistan); Committee of Emergency Situations and Civil Defence of Tajikistan: Mr. Kholiknazarov Sultanmazar and Mr. Jomiev Mahmadali; Act Central Asia: Ms. Gulbarchin Suyunova (Representative, Kyrgyzstan); UNICEF Kyrgyzstan: Mr. Tim Schaffer (Representative); United Nations Resident Coordinator Unit: Ms. Aynura Aymbekova (United Nations Disaster Reduction Adviser, Kyrgyzstan).

At the South-Eastern Europe Civil Military Emergency Planning Council’s Annual Meeting and Working Groups Workshop on Civil-Military Emergency Planning and Preparedness Development in the SEE Region:

Ministry of Security of Bosnia and Herzegovina: Mr. Samir Agic (Assistant Minister and Head of Civil Protection Sector) and Mr. Milivoje Popovic (Head of Department for International Cooperation and Coordination within the Civil Protection Sector); Ministry of Internal Affairs of Montenegro: Mr. Zoran Begovic (Assistant Minister and Head of Emergency Situations and Civil Protection Department); National Protection and Rescue Directorate of Croatia: Ms. Arabela Valtaric (Head of International Cooperation Division); Ministry of Interior, General Directorate for Civil Emergency of Albania: Mr. Bujar Kapllani (Chief of Civil Protection Coordination Sector) and Mr. Salih Kelmendi (Director of Planning and Coordination CE); Ministry of Defense, Administration for Civil Protection and Disaster Relief of Slovenia: Mr. Branko Dervodel (Deputy Director General) and Ms. Natasa Horvat (Senior Advisor for International Relations); Prime Ministry, General Directorate of Emergency Management of Turkey: Mr. Hasan Ipek (General Director) and Mr. Mehmet Bayazit, Mr. Fatih Akman and Mr. Adil Gıftı (Assistant Prime Ministry Experts); Protection and Rescue Directorate of the former Yugoslav Republic of Macedonia: Mr. Kosta Jovcevski (Director) and Ms. Duska Celeska (Chief of Staff); Crisis Management Centre of the former Yugoslav Republic of Macedonia: Mr. Urim Vejseli (Head of Department for NATO and International Cooperation); Ministry of Ukraine of Emergencies and Affairs of Population Protection from Consequences of Chernobyl Catastrophe: Mr. Igor Kusliy (Deputy of Director); Ministry of State Policy for Disasters and Accidents of Bulgaria: Ms. Antoaneta Boycheva (Head of International Cooperation, NATO and EU Department); and Ministry of Interior and Administrative Reform, General Inspectorate for Emergency Situations: Brigadier-General Liviu-Viorel Nemes (General Inspector’s First Deputy) and Mr. Vlad Petre (Expert Officer).
# Table of Contents

Preface .................................................................................................................................................. iii
Acknowledgements ............................................................................................................................. iv
List of Tables ........................................................................................................................................ vi
Abbreviations ....................................................................................................................................... viii
Executive Summary ............................................................................................................................. xi
  Background ................................................................................................................................... xi
  Methodology ................................................................................................................................. xiii
  Data Issues and Terminology Used ............................................................................................. xiv
Brief Country Profiles* ....................................................................................................................... 1
  Albania........................................................................................................................................... 1
  Armenia ......................................................................................................................................... 5
  Azerbaijan ...................................................................................................................................... 9
  Belarus ........................................................................................................................................... 12
  Bosnia and Herzegovina .............................................................................................................. 14
  Bulgaria .......................................................................................................................................... 18
  Croatia ........................................................................................................................................... 22
  Georgia ......................................................................................................................................... 25
  Kazakhstan .................................................................................................................................... 29
  Kosovo under Security Council resolution 1244 ....................................................................... 32
  Kyrgyzstan ..................................................................................................................................... 33
  The former Yugoslav Republic of Macedonia............................................................................ 37
  Moldova ......................................................................................................................................... 41
  Montenegro .................................................................................................................................... 44
  Romania ......................................................................................................................................... 47
  Russia ........................................................................................................................................... 51
  Serbia ............................................................................................................................................ 54
  Slovenia ......................................................................................................................................... 57
  Tajikistan ....................................................................................................................................... 60
  Turkey ............................................................................................................................................ 63
  Turkmenistan ................................................................................................................................ 66
  Ukraine ......................................................................................................................................... 68
  Uzbekistan ..................................................................................................................................... 70
Regional Overview .............................................................................................................................. 73
  Other Regional Disaster Risk Reduction Activities Related to Education .............................. 77
Conclusions and Recommendations ................................................................................................ 78

* Including Kosovo under Security Council Resolution 1244.
List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Albania: Summary data on disasters caused by natural (1967–2005) and technological (1991–2004) hazards, including number of human casualties and economic impact</td>
<td>2</td>
</tr>
<tr>
<td>Table 2</td>
<td>Armenia: Summary data on disasters caused by natural (1997–2004) and technological hazards (1992–1998), including number of human casualties and economic impact</td>
<td>5</td>
</tr>
<tr>
<td>Table 3</td>
<td>Azerbaijan: Summary data on disasters caused by natural (1995–2003) and technological hazards (1992–2007), including number of human casualties and economic impact</td>
<td>9</td>
</tr>
<tr>
<td>Table 4</td>
<td>Belarus: Summary data on disasters caused by natural (1993–2006) and technological hazards, including number of human casualties and economic impact</td>
<td>12</td>
</tr>
<tr>
<td>Table 5</td>
<td>Bosnia and Herzegovina: Summary data on disasters caused by natural (1999–2005) and technological hazards (1997–2000), including number of human casualties and economic impact</td>
<td>14</td>
</tr>
<tr>
<td>Table 6</td>
<td>Bulgaria: Summary data on disasters caused by natural (1928–2007) and technological hazards (1916–1996), including number of human casualties and economic impact</td>
<td>18</td>
</tr>
<tr>
<td>Table 7</td>
<td>Croatia: Summary data on disasters caused by natural (1996–2007) and technological hazards (1992–2002), including number of human casualties and economic impact</td>
<td>22</td>
</tr>
<tr>
<td>Table 8</td>
<td>Georgia: Summary data on disasters caused by natural (1991–2006) and technological hazards (1990–2000), including number of human casualties and economic impact</td>
<td>25</td>
</tr>
<tr>
<td>Table 9</td>
<td>Kazakhstan: Summary data on disasters caused by natural (1993–2005) and technological hazards (1994–2006), including number of human casualties and economic impact</td>
<td>29</td>
</tr>
<tr>
<td>Table 10</td>
<td>The former Yugoslav Republic of Macedonia: Summary data on disasters caused by natural (1993–2007) and technological hazards (1993–2001), including number of human casualties and economic impact</td>
<td>33</td>
</tr>
</tbody>
</table>
## List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 13.</td>
<td>Moldova: Summary data on disasters caused by natural (1994–2006), including number of human casualties and economic impact</td>
<td>41</td>
</tr>
<tr>
<td>Table 15.</td>
<td>Romania: Summary data on disasters caused by natural (1926–2007) and technological hazards (1938–2006), including number of human casualties and economic impact</td>
<td>47</td>
</tr>
<tr>
<td>Table 16.</td>
<td>Russia: Summary data on disasters caused by natural (1993–2006) and technological hazards (1994–2007), including number of human casualties and economic impact</td>
<td>51</td>
</tr>
<tr>
<td>Table 18.</td>
<td>Slovenia: Summary data on disasters caused by natural (1998–2007) and technological hazards, including number of human casualties and economic impact</td>
<td>57</td>
</tr>
<tr>
<td>Table 19.</td>
<td>Tajikistan: Summary data on disasters caused by natural (1992–2007) and technological hazards (1993–2006), including number of human casualties and economic impact</td>
<td>60</td>
</tr>
<tr>
<td>Table 20.</td>
<td>Turkey: Summary data on disasters caused by natural (1903–2006) and technological hazards (1922–2004), including number of human casualties and economic impact</td>
<td>63</td>
</tr>
<tr>
<td>Table 21.</td>
<td>Turkmenistan: Summary data on disasters caused by natural (1993–2000) and technological hazard (1998), including number of human casualties and economic impact</td>
<td>66</td>
</tr>
<tr>
<td>Table 22.</td>
<td>Ukraine: Summary data on disasters caused by natural (1992–2007) and technological hazards (1992–2007), including number of human casualties and economic impact</td>
<td>68</td>
</tr>
<tr>
<td>Table 23.</td>
<td>Uzbekistan: Summary data on disasters caused by natural (1992–2005) and technological hazards (1998–2006), including number of human casualties and economic impact</td>
<td>70</td>
</tr>
<tr>
<td>Table 24.</td>
<td>Population and GNI, and annual average incidents and number of deaths</td>
<td>73</td>
</tr>
<tr>
<td>Table 25.</td>
<td>Country wise peril matrix</td>
<td>74</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>ABSD</td>
<td>Area-Based Social Development</td>
<td></td>
</tr>
<tr>
<td>ADRC</td>
<td>Asian Disaster Reduction Centre</td>
<td></td>
</tr>
<tr>
<td>ARCS</td>
<td>Armenian Red Cross Society</td>
<td></td>
</tr>
<tr>
<td>ARS</td>
<td>Armenian Rescue Service</td>
<td></td>
</tr>
<tr>
<td>AWP</td>
<td>Annual Work Plan</td>
<td></td>
</tr>
<tr>
<td>A2RC</td>
<td>Azerbaijan Red Crescent Society</td>
<td></td>
</tr>
<tr>
<td>CAIAG</td>
<td>Central Asian Institute of Applied Geosciences</td>
<td></td>
</tr>
<tr>
<td>CAP</td>
<td>Consolidated Appeal</td>
<td></td>
</tr>
<tr>
<td>CCA/UNDAF</td>
<td>Common Country Assessment/UN Development Assistance Framework</td>
<td></td>
</tr>
<tr>
<td>CEDAW</td>
<td>Convention on the Elimination of All Forms of Discrimination Against Women</td>
<td></td>
</tr>
<tr>
<td>CEE</td>
<td>Central and Eastern Europe</td>
<td></td>
</tr>
<tr>
<td>CEP</td>
<td>Civil-Emergency Planning</td>
<td></td>
</tr>
<tr>
<td>CFS</td>
<td>Child-friendly schools</td>
<td></td>
</tr>
<tr>
<td>CIS</td>
<td>Commonwealth of Independent States</td>
<td></td>
</tr>
<tr>
<td>CoE</td>
<td>Council of Europe</td>
<td></td>
</tr>
<tr>
<td>CPRESS</td>
<td>Civil Protection and Emergency Situations Service</td>
<td></td>
</tr>
<tr>
<td>CRED</td>
<td>Centre for Research on the Epidemiology of Disasters</td>
<td></td>
</tr>
<tr>
<td>DESCDO</td>
<td>Department of Extreme Situations and Civil Defense</td>
<td></td>
</tr>
<tr>
<td>DFID</td>
<td>Department for International Development</td>
<td></td>
</tr>
<tr>
<td>DIPECHO</td>
<td>Disaster Preparedness ECHO</td>
<td></td>
</tr>
<tr>
<td>DMPT</td>
<td>Disaster Management Training Programme</td>
<td></td>
</tr>
<tr>
<td>DMT</td>
<td>Disaster Management Team</td>
<td></td>
</tr>
<tr>
<td>DPPI</td>
<td>Disaster Preparedness and Prevention Initiative</td>
<td></td>
</tr>
<tr>
<td>DRMP</td>
<td>Disaster Risk Management Project</td>
<td></td>
</tr>
<tr>
<td>DRR</td>
<td>Disaster Risk Reduction</td>
<td></td>
</tr>
<tr>
<td>EADRCC</td>
<td>Euro-Atlantic Disaster Response Coordination Centre</td>
<td></td>
</tr>
<tr>
<td>ECHO</td>
<td>European Commission Humanitarian Aid department</td>
<td></td>
</tr>
<tr>
<td>EFA</td>
<td>Education For All</td>
<td></td>
</tr>
<tr>
<td>ELDS</td>
<td>Early Learning and Development Standards</td>
<td></td>
</tr>
<tr>
<td>EMD</td>
<td>Emergency Management Department</td>
<td></td>
</tr>
<tr>
<td>EM-DAT</td>
<td>Global database on disasters</td>
<td></td>
</tr>
<tr>
<td>ENDP</td>
<td>Education for Natural Disaster Preparedness</td>
<td></td>
</tr>
<tr>
<td>EPRP</td>
<td>Emergency Preparedness and Response Plans</td>
<td></td>
</tr>
<tr>
<td>ESSS</td>
<td>Emergency Situation and Civil Safety Service</td>
<td></td>
</tr>
<tr>
<td>ESSC</td>
<td>Emergency Situation State Council</td>
<td></td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
<td></td>
</tr>
<tr>
<td>EU-MIC</td>
<td>European Union Monitoring and Information Centre</td>
<td></td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization (UN)</td>
<td></td>
</tr>
<tr>
<td>FTI</td>
<td>Fast Track Initiative</td>
<td></td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
<td></td>
</tr>
<tr>
<td>GEF SGP</td>
<td>Global Environment Facility's Small Grants Program</td>
<td></td>
</tr>
<tr>
<td>GIES</td>
<td>General Inspectorate for Emergency Situations</td>
<td></td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information Systems</td>
<td></td>
</tr>
<tr>
<td>GNI</td>
<td>Gross National Income</td>
<td></td>
</tr>
<tr>
<td>GSHAP</td>
<td>Global Seismic Hazard Assessment Programme</td>
<td></td>
</tr>
<tr>
<td>HFA</td>
<td>Hyogo Framework for Action</td>
<td></td>
</tr>
<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
<td></td>
</tr>
<tr>
<td>IFRC</td>
<td>International Federation of Red Cross and Red Crescent Societies</td>
<td></td>
</tr>
<tr>
<td>INSARAG</td>
<td>International Search and Rescue Consulting Group</td>
<td></td>
</tr>
<tr>
<td>IPA</td>
<td>Instrument for Pre-accession Assistance</td>
<td></td>
</tr>
<tr>
<td>IPAP</td>
<td>Individual Partnership Action Plan</td>
<td></td>
</tr>
<tr>
<td>ISDR</td>
<td>International Strategy for Disaster Reduction</td>
<td></td>
</tr>
<tr>
<td>LS</td>
<td>Life Security</td>
<td></td>
</tr>
<tr>
<td>LSBE</td>
<td>Life-Skills Based Education</td>
<td></td>
</tr>
<tr>
<td>MCS</td>
<td>Mercalli-Cancani-Sieberg scale</td>
<td></td>
</tr>
<tr>
<td>ME</td>
<td>Ministry of Education</td>
<td></td>
</tr>
<tr>
<td>MERY</td>
<td>Ministry of Education, Research and Youth</td>
<td></td>
</tr>
<tr>
<td>MES</td>
<td>Ministry of Emergency Situations</td>
<td></td>
</tr>
<tr>
<td>MEY</td>
<td>Ministry of Education and Youth</td>
<td></td>
</tr>
<tr>
<td>MoE</td>
<td>Ministry of Education</td>
<td></td>
</tr>
<tr>
<td>MoES</td>
<td>Ministry of Emergency Situations and Civil Defense</td>
<td></td>
</tr>
<tr>
<td>MoU</td>
<td>Memorandum of Understanding</td>
<td></td>
</tr>
<tr>
<td>MTSP</td>
<td>Mid-Term Strategic Plan</td>
<td></td>
</tr>
<tr>
<td>NATO</td>
<td>North-Atlantic Treaty Organization</td>
<td></td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
<td></td>
</tr>
<tr>
<td>NP</td>
<td>National Platform</td>
<td></td>
</tr>
<tr>
<td>OCHA</td>
<td>Office for the Coordination of Humanitarian Affairs (United Nations)</td>
<td></td>
</tr>
<tr>
<td>REACT</td>
<td>Rapid Emergency Assessment and Coordination Team</td>
<td></td>
</tr>
<tr>
<td>RCSK</td>
<td>Red Crescent Society of Kyrgyzstan</td>
<td></td>
</tr>
<tr>
<td>RCST</td>
<td>Red Crescent Society of Turkmenistan</td>
<td></td>
</tr>
<tr>
<td>RSES</td>
<td>Prevention and Elimination of Emergency Situations</td>
<td></td>
</tr>
<tr>
<td>SDC</td>
<td>Swiss Agency for Development and Cooperation</td>
<td></td>
</tr>
<tr>
<td>SEEDRMAP</td>
<td>South Eastern Europe Disaster Risk Management and Adaptation Program</td>
<td></td>
</tr>
<tr>
<td>SEEDRMI</td>
<td>South Eastern Europe Disaster Risk Management Initiative</td>
<td></td>
</tr>
<tr>
<td>TEMAD</td>
<td>Turkey Emergency Management General Directorate</td>
<td></td>
</tr>
<tr>
<td>TESIS</td>
<td>Advanced Technologies and Systems for the Knowledge-based Information Society</td>
<td></td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
<td></td>
</tr>
<tr>
<td>UNCT</td>
<td>United Nations Country Team</td>
<td></td>
</tr>
<tr>
<td>UNDAC</td>
<td>United Nations Disaster Assessment and Coordination</td>
<td></td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nation Development Programme</td>
<td></td>
</tr>
<tr>
<td>UNEP</td>
<td>United Nations Environmental Programme</td>
<td></td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
<td></td>
</tr>
<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
<td></td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
<td></td>
</tr>
<tr>
<td>UNIFEM</td>
<td>United Nations Development Fund for Women</td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>United States</td>
<td></td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
<td></td>
</tr>
<tr>
<td>WB</td>
<td>World Bank</td>
<td></td>
</tr>
<tr>
<td>WG</td>
<td>Working Groups</td>
<td></td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
<td></td>
</tr>
</tbody>
</table>
Executive Summary

Knowledge and education are recognized as key components of disaster risk management and were made a priority area in the Hyogo Framework for Action 2005-2015. Within this framework, and as part of the broader International Strategy for Disaster Reduction (ISDR) partnership in disaster risk reduction (DRR), UNISDR Europe and Central Asia offices and UNICEF Central and Eastern Europe and Commonwealth of Independent States regional office have agreed to join forces to support progress in this HFA priority area in the region of South Eastern Europe and the Commonwealth of Independent States. This report was prepared in support of that initiative. The objectives were to collect existing material and information on disaster risk reduction in targeted countries; to conduct a review of national disaster risk reduction structures, key legislation and current disaster risk reduction activities related to education undertaken by national and international actors; and to conduct a review of ongoing UNICEF country programmes and UNISDR activities to facilitate the effective implementation of disaster risk reduction initiatives, strategies and programmes.

This report analyses disaster risk at country and regional level from both natural and technological hazards. It reviews existing documents, including country-level reports based on the Yokohama strategy and HFA, to develop an understanding of current national economic environments, legislation, awareness, capacity and institutional mechanisms related to disaster risk reduction and disaster management. Various project documents prepared at country, regional and global level were also reviewed, as were documents prepared by United Nations agencies, and national and international organizations working in the area. Data from the Centre for Research on the Epidemiology of Disasters (CRED) Global Database on Disasters (EM-DAT) was used extensively for the risk (vulnerability and hazard) analysis. Historic data on the number of disaster events, including number of people killed and affected, and economic losses incurred was also assessed, and information examined from global databases including the Disaster Risk Index tool of the United Nations Development Programme (UNDP), and World Bank statistics. Information was also provided by key representatives of national disaster management authorities, and national and international organizations active in disaster risk reduction. United Nations agencies were consulted.

The report concludes with some proposals on potential areas of cooperation and collaboration, exploring potential synergies between stakeholders and building on results already achieved. The presence and areas of engagement of other United Nations agencies and national and international partners has been carefully observed to explore possible areas of collaboration, and to avoid the risk of duplication and overlapping. After an overview of risk vulnerability, existing legal and institutional structures and activities undertaken by national authorities, as well as a consideration of ongoing UNICEF programmes and UNISDR presence, a series of recommendations are presented on how successes in the field of education for disaster risk reduction already achieved can be further consolidated.

Background

On a global scale, disasters caused by natural hazards are increasing in both frequency and magnitude. Floods, droughts, wildfires, landslides, earthquakes, volcanic activity and other natural hazards continue to cause major economic and human losses, destroying social and economic infrastructures and often overwhelming the management capacities of individual countries. Given the immensity of the potential losses, the impact of disasters can be catastrophic. Available international data shows that over the past 10 years disasters triggered by natural hazards have claimed more than 478,000 lives, affected 2.5 billion people and caused direct economic losses of $690 billion worldwide1.

However, while the number of geophysical disasters reported in the decade from 1996 to 2006 remained fairly constant, there was a sharp increase in the number of hydro-meteorological disasters, such as floods, tropical storms and droughts. Many scientists believe that this trend will continue and could even accelerate due to glo-

nal climate change. Furthermore, demographic changes are leading to increased population pressure which is compounding the potential problems and threatening to dramatically increase the number of people at risk from disasters over the next 35 years.

Among all natural hazards floods result in the highest financial losses and claim the most victims in Europe. Structural measures such as dykes and levees provide protection against the more frequent floods, but rare events may exceed the design capacities of the protection resulting in the massive losses seen in recent years. It appears that such supposedly ‘rare’ events may be becoming more frequent due to changing patterns of development and climate change. In the SEE/CIS region, where all countries are vulnerable to floods, the risks are often compounded where they occur in areas where vulnerable chemical or nuclear facilities are located.

The sheer scale of the number of people affected by disasters and the losses incurred demonstrate the devastating social and economic impact such events can have on development, especially on the more vulnerable countries. The enormity of the challenges posed underlines the urgent need for a shift away from sole response to disasters towards a more integrated approach to disaster risk reduction.

The escalation of severe disaster events, many of them attributable to hydro-meteorological factors, is increasingly threatening sustainable development and poverty-reduction initiatives in disaster-affected countries. Consequently, in an effort to both mitigate the negative effects of human activity on the environment while at the same time developing the capacities of vulnerable populations to protect themselves against natural hazards, disaster risk reduction is becoming an important aspect of poverty-reduction and general-development initiatives. The tremendous loss of human life and the rise in the cost of reconstruction efforts and loss of development assets has forced the issue of disaster reduction and risk management higher on the policy agenda of affected governments as well as multilateral and bilateral agencies and non-governmental organizations (NGOs).

In response to the rising number of disasters and the increased expectations and demands of nations and communities to implement the HFA, the ISDR has evolved into a global system of partnerships with the aim of promoting links and synergies between, and the co-ordination of, disaster reduction activities. The ISDR system is composed of national authorities and platforms; regional, international, intergovernmental and non-governmental organizations; the United Nations system; international financial institutions; scientific and technical bodies; and various specialized networks. UNISDR is responsible for coordinating and servicing the ISDR system. UNICEF is a member of the ISDR Inter-Agency Group.

UNISDR takes a global approach to disaster reduction, seeking to involve every individual and every community towards the goals of reducing the loss of life, the socio-economic setbacks and the environmental damage caused by natural hazards. In order to achieve these goals, UNISDR promotes four objectives: increase public awareness to understand risk, vulnerability and disaster reduction globally; obtain commitment from public authorities to implement disaster reduction policies and actions; stimulate interdisciplinary and inter-sectoral partnerships, including the expansion of risk reduction networks; and improve scientific knowledge about disaster reduction.

The core mandate of UNISDR includes awareness-raising activities in disaster risk reduction, advocacy through policy formulation, the dissemination of guidelines to assist in the implementation of the HFA, promoting the establishment of National Platforms for disaster risk reduction, and partnership-building to contribute to an effective culture of safety and protection of all. UNISDR works through a growing network of National Platforms to mobilize governmental actions in disaster risk reduction as well as directly with the governments in the region, and in particular with United Nations Country Team members; it also builds effectively on regional organizations, partners and networks to facilitate the effective implementation of disaster risk reduction initiatives, strategies and programmes. There are now a total of seven National Platforms in the SEE/CIS region, while several other countries have informed UNISDR that they are in the process of developing them. A further 11 countries already have HFA Focal Points.

One of the most important lessons to emerge from the series of devastating disasters worldwide over the past decade is that education and knowledge have the power to save lives. In the recent UNISDR study Let Our Children Teach Us! it was estimated that roughly 1 billion children aged 1-14 live in countries with high seismic risk, which puts several hundred million children at risk while they are attending schools. In the SEE/CIS region, where earthquake hazards are present in almost all countries, the proportion of children at risk is very high. Furthermore, schools are equally vulnerable to damage or destruction during natural hazards such as strong winds, landslides and floods.

Education and knowledge for disaster risk reduction appear as the third priority in the HFA, fostering the “use of knowledge, innovation and education to build a culture of safety and resilience at all levels”, the overall target being to contribute to a drastic shift in mentalities and perceptions as well as a behavioural change towards a more proactive preventative approach to disasters. Children, as “tomorrow’s leaders” and key agents for change, are recognized as the primary targets of these efforts.
The 2006–2007 World Campaign on Disaster Reduction was developed around the theme Disaster Risk Reduction Begins at School to engage and mobilize key stakeholders at the local, national, regional and international levels in promoting the integration of disaster risk reduction as part of school curricula and in facilitating the development of disaster-resilient schools and retrofitting of school buildings to withstand natural hazards through school safety programmes at all levels. Education for disaster risk reduction also contributes to world efforts in achieving Target 2 of the Millennium Development Goals on Achieving Universal Primary Education, as well as the goals of the United Nations Decade of Education for Sustainable Development (2005–2014) led by the United Nations Educational, Scientific and Cultural Organization (UNESCO), which aims at the development of the concept of Education for Natural Disaster Preparedness (ENDP) and the overall integration of ENDP into sustainable development strategies.

The state of development and advancement in integrating disaster risk reduction within school curricula of course varies according to the level of development, capacities and political commitment granted by governments to the issue of education. The number of activities and programmes and the amount of educational material on disaster risk reduction is substantial in the SEE and CIS region and many lessons learned can be drawn from each country’s experience in this area.

Since 1990, UNICEF has made major contributions to help countries achieve the goal of education for all, mainly through innovative projects and programmes. These have included advocacy for the right of all children to education as well as measures to restore learning opportunities to children affected by emergencies such as disasters caused by natural hazards or technological accidents.

Increasingly, UNICEF is supporting initiatives to predict and prevent disasters and be better prepared should they occur. This new emphasis was spurred in part by the devastation and loss of life caused by the Indian Ocean earthquake and tsunami in December 2004 as well as the potential disaster posed by avian and pandemic influenza.

UNICEF recognises the key role that education can play in reducing the risks posed by disasters and is helping to build capacities by providing education and training to help with prediction, prevention and preparedness for emergencies. Through this training children are learning what disasters are, when and where they are most likely to occur, and also what to do before, during and after they strike.

In terms of the UNICEF presence in the SEE/CIS region, education sector coordination mechanisms – under the overall coordination of the UN Humanitarian Coordinator – already function at country level, with UNICEF playing the lead role. One example is the UNICEF role in Tajikistan’s REACT, which comprises over 60 key national and international governmental and non-governmental organizations. There are examples across the region of how UNICEF is successfully integrating disaster risk reduction into its country programmes, including mine-risk education in Bosnia and Herzegovina and the mainstreaming of disaster risk reduction into education programmes in Turkey. Through these activities, UNICEF is demonstrating a growing emphasis on the provision of education and training to enhance prevention and preparedness for emergencies. The incorporation of disaster risk reduction into its life skills and child-friendly schools programming is helping to facilitate this.

While the response to humanitarian crisis through education has been dominated by international organizations, governments in the affected countries are taking a lead role in prevention, mitigation and preparedness efforts. The Mid-Term Strategic Plan (MTSP) identifies support for emergency preparedness and response and post-emergency transition as part of UNICEF’s organizational response to changes in the development environment. But while it is clear that education has a pivotal role to play in relief, rehabilitation and reconstruction, the report finds that gaps remain in the focus on and support for education in disaster risk reduction, prevention and mitigation. It is therefore critical to embark on programmes and initiatives that would begin to address these shortcomings.

The report suggests a number of activities and recommendations that have the potential to enhance the effectiveness and efficiency with which countries of the SEE/CIS region and international actors address the challenges posed by education in disaster risk reduction. It recognises that UNICEF and UNISDR possess the capacity, regional reach and programmatic commitment to lead this advance, and suggests that the collaborative agenda for enhancement and further development of cooperation between the two organizations in the area of disaster risk reduction and education in the region be further consolidated.

Laying solid, systemic foundations could enable countries in the SEE/CIS region to attract additional funds for disaster risk reduction, education and development – such as from the Education For All Fast Track Initiative (EFA FTI) – and further facilitate the mainstreaming of disaster risk reduction into education curricula across the region, thereby contributing to HFA Priority for Action 3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels.

**Methodology**

The information contained in this report is based on a variety of sources. Meetings were held and direct communication was established with key representatives of national and international organizations and authorities active in disaster risk reduction and disaster management, and other United Nations agencies. Such first-hand information was supplemented by a desk review of existing

---

In the SEE and CIS region, Moldova, Kyrgyzstan and Tajikistan are FTI recipient countries.
studies by international agencies, governments, governmental and non-governmental organizations, and data from a wide spectrum of sources.

Data on disasters due to natural and technological hazards was principally taken from EM-DAT, the Office of U.S. Foreign Disaster Assistance/CRED international disaster database, and complemented with data from other sources. In addition to those provided by UNICEF and UNISDR, numerous other documents, including country programme documents and Asian Disaster Reduction Centre (ADRC) country reports, were examined. The following publications launched by the World Bank and UNISDR were consulted extensively: Risk Assessment for South Eastern Europe: Desk Study Review, developed within the context of the South Eastern Europe Disaster Risk Mitigation and Adaptation Initiative (SEEDRMI); Risk Assessment for Central Asia and Caucasus: Desk Study Review, developed within the context of the Central Asia and Caucasus Disaster Risk Management Initiative (CAC DRMII); and the Structure, Role and Mandate of Civil Protection in Disaster Risk Reduction for South Eastern Europe, developed within the context of the South Eastern Europe Disaster Risk Mitigation and Adaptation Programme (SEEDRMAP).

Two sets of enquiries were conducted. One targeted national disaster management officials and the other was aimed at national and international organizations, and UNICEF missions in the SEE/CIS region. Two meetings were attended: the Community-Based Disaster Risk Management Workshop, based on the HFA, in Bishkek, Kyrgyzstan; and the South Eastern Europe Civil Military Emergency Planning Council’s Annual Meeting and Working Groups Workshop on Civil-Military Emergency Planning and Preparedness Development in the SEE Region, in Sarajevo, Bosnia and Herzegovina.

A full list of institutions and organizations contacted can be found in Annex 2. Unfortunately, several organizations contacted failed to respond and, consequently, the amount of information obtained varies from country to country. This is especially apparent in the sections in each country profile which review the work of national organizations involved in disaster risk reduction. It should be noted that given the limited availability of information the activities which are included should be considered as representative rather than comprehensive. Similarly, the reviews of the work of international organizations involved in disaster risk reduction focus on only a limited selection of organizations. Along with UNICEF and UNISDR, only the work of certain key United Nations bodies is considered. A more comprehensive study was beyond the scope of this report.

Nevertheless, given the extent of the range of material collated and the number of key representatives contacted, the report provides a solid assessment of exposure to disaster risk at country and regional level, including an examination of current legislation and institutional mechanisms towards disaster prevention and preparedness, and a review of disaster risk reduction activities undertaken in targeted countries and the role of education in this.

The report provides for each country brief presentations of its disaster risks – hazards and vulnerabilities – and institutional framework for disaster management. Disaster risk reduction activities related to education and those undertaken by national authorities and international and national organizations have also been portrayed and presented.

The conclusions and recommendations are the result of a careful analysis of information collected and interviews held with stakeholders, both governmental and non-governmental.

Data Issues and Terminology Used

Before progressing to the country overviews, certain data issues and terminology require clarification.

Disasters due to natural and technological hazards are time- and space-reference events. Historic data plays a crucial role for hazard and vulnerability assessment and analyzing historic events and losses helps in understanding the risks faced by a country or region. The vulnerability of a country to disasters is often measured in terms of the total number of events, the number of people killed or affected, and the economic losses. But it should be noted that the impact diffusion of an event often extends far beyond the visible physical damage.

The report uses data from a variety of sources: national governments, humanitarian and disaster relief agencies, specialist agencies, the media and insurance company reports. It also uses data published in the EM-DAT database for information on disasters due to both natural and technological hazards. However, it should be noted that in order for a disaster to be entered into the EM-DAT database at least one of the following criteria has to be fulfilled:

- 10 or more people reported killed;
- 100 people reported affected;
- declaration of a state of emergency; or
- call for international assistance.

It should also be noted that disasters such as earthquakes often have long return periods and data representing such events does not necessarily appear in the data ‘window’ covered by EM-DAT. In such cases other sources of information have been used wherever possible to assess the impacts of such disasters. Supplementary sources have also referred to in several country profiles for economic loss data, which is scanty in EM-DAT. For a vulnerability overview, annual average incidents and number of deaths have been presented together with population and Gross National Income (GNI) statistics in Table 22.

The majority of countries in the SEE/CIS region were formed during the early 1990s, some of them even more
recently, and retrospective country-specific data on the
EM-DAT database does not extend beyond their inaugu-
rations. For that reason, combined data for Serbia and
Montenegro has been represented.

Country-level reports and other documents were also re-
viewed to gain an understanding of hazards and their im-
 pact on targeted countries, but this data was used only as
supplementary information due to standardization issues.
Hazards and disasters overview

Albania’s geographical position and the nature of its topography mean that the country is frequently affected by intense precipitation, making it most vulnerable to floods. In terms of number of events, EM-DAT shows (Table 1) that from 1967 to 2007 floods accounted for 29 per cent of disasters, with earthquakes accounting for 21 per cent. The country is also vulnerable to natural hazards including landslides, droughts, extreme temperatures, wildfires, wind storms, epidemics and avalanches. There were two disasters caused by technological hazards reported by EM-DAT: one major transport accident and one major industrial accident, in 1991 and 2004 respectively.

The occurrence of different disasters in the country over the period shows that Albania was most vulnerable to meteorological hazards. A flood in September 2002 affected nearly 17,000 families, inundated 30,000 hectares of agricultural land, damaged 494 houses and caused reported damage of US$ 17.5 million. In terms of victims, the 1989–1991 drought affected almost the entire nation.

During the last 33 years, EM-DAT reports four earthquakes killing 36 people and affecting 2,790 others. The 15 April 1979 Skodra (Montenegro) earthquake alone killed 35 people, injured 383 and rendered 100,000 homeless. According to a scenario analysis carried out in 2003, estimating human casualties due to earthquakes, the mortality rate would be highest in Durres for an earthquake with a 475-year return period. From a structural point of view, it is estimated that the highest percentage of building collapses in such an earthquake would occur in Diber quark, followed by Durres. From the expected maximum flood potential for an event with a 100-year return period, Gjirokastra, Tirana, Elbasan and Shkoder quarks are in extreme flood-risk zones.

Landslides often occur as associated hazards of floods or earthquakes. During the period 2003–2006, there were 45 reported cases of very significant landslides, while the Global Fire Monitoring Centre reports that between 1981 and 2000 there were 667 fires affecting almost 21,500 hectares of land in Albania.

Extreme temperatures and technological hazards have also had severe impacts, as indicated by the large number of deaths compared to number of events. Landslides and earthquakes are the next most severe hazardous events in the country.

According to the World Health Organization (WHO), Albania is facing increasing pollution levels caused by poisonous gases released from industry and transport. The current levels are 10 times the set tolerance limits.

---

2 A return period is a way of expressing the probability of events that occur infrequently. An event such as the one described here, with a 475-year return period, is likely to occur once every 475 years.
3 Quark is a local word for region.
Disaster management structure and legislation

The legislation covering disaster management in Albania reflects the processes which are transforming the centralized structures of the sector into an essentially decentralized scheme based on a network of local decision centres. The current efforts are focused on the inclusion of Albanian civil protection structures within a European perspective and represent a road map for achieving this.

The first move towards the establishment of a more modern civil protection system came with Law 8756, in March 2001. The law encompasses the planning, prevention and preparedness system and defines first coordination among the different actors in civil emergency response operations. The law considers both disasters caused by the impact of natural hazards, including earthquakes, floods, landslides, avalanches, strong winds, forest fires and epidemics; and disasters due to human causes, including transport accidents, urban fires, explosions, dam collapses, NBC releases, riots and war.

The Government is officially recognized as the first actor in civil emergencies. Its stated duties are to prevent, mitigate and restore any damage suffered by the population, animals, properties, cultural heritage and environment. The Department for Civil Emergencies, Planning and Response of the Ministry of Interior is responsible for disaster management. It is comprised of permanent and provisional structures on a central, regional and local level.

In December 2004 the Albanian Council of Ministers adopted the National Civil Emergency Plan, the development of which was supported by the United Nations Development Programme (UNDP) and the Department for International Development (DFID). The rationale of the plan was to stress the participation of civil society within the civil protection structures and define the strategy and the main targets of the Department for Civil Emergencies, Planning and Response, using EU good practice as a reference point and after consideration of wider regional developments in the Balkans. The plan defines the roles and duties of all relevant governmental institutions and civil organisations involved in civil protection for all phases of emergency management. Albania’s cooperation with other countries has a special emphasis.

Improving response capacities at local levels; and strengthening planning, monitoring and operational structures at all levels; and building and enhancing institutional capacity at all levels remain the key challenges to developing an integrated, responsive and effectively-coordinated disaster management system in Albania.

Table 1. Albania: Summary data on disasters caused by natural (1967–2005) and technological (1991–2004) hazards, including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>1</td>
<td>4.17</td>
<td>0</td>
<td>3,200,000</td>
<td>0</td>
</tr>
<tr>
<td>Earthquake</td>
<td>5</td>
<td>20.83</td>
<td>47</td>
<td>8,279</td>
<td>0</td>
</tr>
<tr>
<td>Epidemic</td>
<td>2</td>
<td>8.33</td>
<td>7</td>
<td>292</td>
<td>0</td>
</tr>
<tr>
<td>Extreme temperature</td>
<td>3</td>
<td>12.50</td>
<td>71</td>
<td>7,235</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>7</td>
<td>29.17</td>
<td>19</td>
<td>116,384</td>
<td>24,673,000</td>
</tr>
<tr>
<td>Slide</td>
<td>1</td>
<td>4.17</td>
<td>57</td>
<td>26</td>
<td>0</td>
</tr>
<tr>
<td>Wildfire</td>
<td>1</td>
<td>4.17</td>
<td>0</td>
<td>75</td>
<td>0</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>2</td>
<td>8.33</td>
<td>8</td>
<td>525,000</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>1</td>
<td>4.17</td>
<td>15</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>1</td>
<td>4.17</td>
<td>60</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100</td>
<td>284</td>
<td>3,857,316</td>
<td>24,673,000</td>
</tr>
</tbody>
</table>
A network of five or six regional headquarters, each having authority over a set of three or four counties, is to be established to create a system of reliable, capable and autonomous bodies able to manage and coordinate operations during ‘ordinary’ emergencies.

The following institutions and structures are involved in disaster management in Albania: line ministries, quarks, municipalities and communities; the Albanian Red Cross and other national NGOs; the Academy of Science and scientific research institutes; citizens and communities; United Nations agencies, the North-Atlantic Treaty Organization/Civil Emergency Planning/Euro-Atlantic Disaster Response Coordination Centre (NATO/CEP/EADRCC) and other international organizations; and regional and European initiatives such as Civil Military Emergency Planning, the Disaster Preparedness and Prevention Initiative (DPPI), the Black Sea Agreement, and the EUR-OPA Hazard Agreement.

The main operational forces deployed to cope with major emergencies are the armed forces, coordinated by the Ministry of Defence; state and other police; the firefighting and rescue service; the ambulance service; the Albanian Red Cross and other national NGOs; public service enterprises and private companies contracted at local or central level; and specialized international teams.

Other significant pieces of policy and legislation in the realm of disaster risk reduction include the Law on Civil Emergency Services, and the Policy on Civil Emergency Planning and Response.

How education is used to promote safety

The Department of Civil Emergencies, Planning and Response, through its directorates and other structures, is responsible for training and technical instruction of personnel within the civil protection structure. It has developed training curricula for the capacity building of civil emergency system personnel. Training activities are carried out yearly on the basis of national civil protection technical manuals or those adapted from international literature produced on the subject.

To date, such training activities are not yet formalized or structured according to a national standard, although the National Civil Emergency Plan is the reference point for launching the next stage in the development of training: the National Civil Emergency Training Strategy. The Strategy is designed to make possible the institutionalisation of disaster management initiatives.

One of the priorities is the establishment of a National Training Centre for Civil Protection, which will provide local civil protection managers with standardized training courses, leading to a strengthening of the capacities of operational staff.

The General Directorate of Civil Emergencies, Planning and Response has also prepared and disseminated three brochures, for earthquake, floods and home safety, which are used to raise awareness at the community level.

Each county and district comprises within their permanent staff a set of technicians (five or six for a county and one for a district). Each prefecture has a Civil Emergency Officer who has been trained by a directorate using a standard two-stage Albanian civil emergency training manual. Each municipality and commune has a designated officer with responsibility for civil emergency matters who will have also benefited from instruction in the standard training curriculum and, quite possibly, through the frequent necessity of observing early warning, standby and response protocol.

Selected national and international partners involved in disaster risk reduction

National organizations

- In addition to organizations and bodies already mentioned – notably the Albanian Red Cross, which has signed cooperation agreements with government structures at both central and regional levels – national partners involved in disaster risk reduction include the Ministry of Interior, Civil Emergency General Directorate; the Hydrometeorological Institute; the Seismological Institute of the Academy of Sciences of Albania; and the NGO Melteza, which is active in the Shkodra and Lezha regions and is largely involved with search and rescue operations and first aid.

United Nations and other international organizations

- Albania was selected in January 2007 as one of the countries around the world to pilot the One UN Programme, following a request made by the Prime Minister in December 2006. The programme in Albania was initially scheduled to cover the period 2007–2010, with 2007 as the transition year, and 2008 and 2009 as the implementation years. Consolidation and assessment was scheduled to take place in 2010, although the programme has now been extended to 2011 to allow lessons learned and results of the evaluation process to be taken into account in the formulation of the new UN Programme. The goal of the One UN Programme in Albania is to enhance development results and impact by bringing together the comparative advantages of the United Nations system within a single strategic programme.

It was agreed that under One UN, impact and development effectiveness would be improved to bring about the following: more transparent and accountable governance, greater inclusive participation in public policy and decision-making, increased and more equitable access to quality basic services, regional development to reduce regional disparities and promote environmentally-sustainable growth.

The development focus of the One UN Programme complements and supports the Instrument for Pre-accession Assistance (IPA) implementation over the
years 2007–2010 while also complementing other international partners’ programmes. Within the framework of meeting international commitments, particular attention will be paid to UN Human Rights Conventions, with an emphasis on the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and the Convention on the Rights of the Child.

It was agreed that under One UN, impact and development effectiveness would be improved to bring about the following: more transparent and accountable governance, greater inclusive participation in public policy and decision-making, increased and more equitable access to quality basic services, regional development to reduce regional disparities and promote environmentally-sustainable growth.

The development focus of the One UN Programme complements and supports the Instrument for Pre-accession Assistance (IPA) implementation over the years 2007–2010 while also complementing other international partners’ programmes. Within the framework of meeting international commitments, particular attention will be paid to UN Human Rights Conventions, with an emphasis on the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) and the Convention on the Rights of the Child.

Other United Nations agencies active in Albania include UNICEF, which was established in the country in 1992 following the collapse of the communist government. Initially, UNICEF focused on basic services, helping to ensure that children were immunized, eating well and attending school. Now, UNICEF supports the Government and other civil society institutions to develop the structures needed to fulfil the rights of every child.

The 2006–2010 country programme is assisting Albania to meet its obligations under the Convention on the Rights of the Child and the Convention on the Elimination of All Forms of Discrimination against Women. The programme supports national priorities for education, health, protection and poverty reduction, including the National Strategy for Socio-Economic Development. The goals of the National Strategy are to reduce poverty and income disparity; reduce infant and maternal mortality and disease rates; increase attendance in compulsory education and extend the average schooling period; and improve both governance and basic services.

The previous country programme centred on the promotion of child survival, youth development and participation, and on child protection, with a focus on the development of a legislative framework and key social policies.

The fundamental aim of UNICEF has been to create a “children first” mindset in Albania – a core belief that the question “will this be good for children?” is routinely asked before any policy is adopted or action taken. Within the broad programme of children’s health and development, UNICEF has devoted special efforts to ensure equal learning opportunities for all children and that school discipline respects children’s rights, with special attention given to children from marginalized communities.

• Albania actively participates in events organized by UNISDR and has adopted the HFA. The country has established an HFA Focal Point as a stage in its implementation and pursuit of HFA objectives and strategic goals. Direct communication was established between Albanian national authorities and UNISDR in 2007 within the framework of SEEDRMI.

• The Council of Europe (CoE) has a permanent correspondent in Albania.
Hazards and disasters overview

Armenia is one of the most disaster-prone countries in the southern Caucasus. The country is vulnerable to natural hazards including earthquakes, droughts, floods, landslides, avalanches, mudslides, strong winds, snow storms, frost and hail; and technological hazards including transport and industrial accidents.

Earthquakes are the most dominant hazard in Armenia. As per Global Seismic Hazard Assessment Programme (GSHAP, 1998), Armenia lies in a region with moderate to high seismic hazard. The analysis of disaster data (1987–2008) shows that although there were fewer earthquakes than floods, earthquakes caused a disproportionately large amount of damage. The most devastating, the 1988 Spitak earthquake, had a magnitude of 6.9 and killed 25,000 people, left 517,000 people homeless and prompted the evacuation of almost 200,000 others. Direct economic loss was estimated at $14.2 billion. The July 1997 Noyemberyan city earthquake affected 15,000 people and caused economic loss of $33.33 million.

The drought hazard is significant in Armenia. Among recent events, the 2000 drought severely affected 297,000 people, with reported damage of $100 million. The flood hazard is also significant. The single flood event of June 1997 affected 7,000 people and caused economic loss of $8 million.

One third of Armenia is exposed to the risk of landslides. During a recent five-year period, landslides left more than 2,000 families homeless.

Armenia has suffered from numerous technological disasters. There were five technology-related disasters reported in the period 1992–1998. The country is also exposed to water pollution and chemical hazards such as chemical pipelines and chemical plants, and it faces a possible radiation hazard originating from the nuclear plant at Metsamor. This plant is considered dangerous by the International Atomic Energy Agency (IAEA) because of its location in an earthquake zone and its type.

Disaster management structure and legislation

In 2008, the Armenian Government established the Ministry of Emergency Situations (MoES) with a man-

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>297,000</td>
<td>100,000,000</td>
</tr>
<tr>
<td>Earthquake</td>
<td>1</td>
<td>10</td>
<td>0</td>
<td>15,000</td>
<td>33,333,000</td>
</tr>
<tr>
<td>Flood</td>
<td>3</td>
<td>30</td>
<td>5</td>
<td>7,144</td>
<td>8,120,000</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>2</td>
<td>20</td>
<td>65</td>
<td>48</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>1</td>
<td>10</td>
<td>21</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>2</td>
<td>20</td>
<td>16</td>
<td>762</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10</strong></td>
<td><strong>100</strong></td>
<td><strong>107</strong></td>
<td><strong>319,954</strong></td>
<td><strong>141,453,000</strong></td>
</tr>
</tbody>
</table>


date that encompassed developing a programme for risk assessment and emergency preparedness, carrying out emergency response and recovery, and coordinating government-wide policy on risk mitigation.

The establishment of the MoES marks what is suggested is a stage in the development of a multi-sectoral platform for disaster risk reduction in Armenia. Among other governmental organizations, it incorporates the key national actors in disaster risk reduction, namely the National Survey for Seismic Protection; the Armenian Hydrometeorological Bureau and the Armenian Rescue Service (ARS).

The ARS, which was established in 2005 and is now the primary organization responsible for emergency management, replaces the State Emergency Management Administration, established in 1991 under the Ministry of Territorial Administration. The ARS is the governmental entity which manages disaster risk reduction multi-coordination and cooperation for population protection systems in emergencies. These systems incorporate the national and local governance bodies and establish the channels of authority in disaster reduction. It maintains public awareness, trains responders, plans for natural disaster responses, and coordinates emergency response and recovery.

To manage emergency responses, the ARS established the Centre for Crisis Management (CCM), which operates under the Department of Operations Management. The CCM is an emergency call centre and an emergency operations centre that services all calls related to accidents and emergencies; organizes all notification and warnings to administrative bodies and the public; notifies international entities of trans-border emergencies, as per international agreements; collects and provides information to public administrative bodies; and dispatches CCM task forces to manage emergencies.

Disaster risk reduction measures are being carried out through the national budget according to relevant legislation; the national budget includes a Reserve Fund to be used in case of emergency.

The main directions in the pursuit of national policy in the area of disaster risk reduction are made through close cooperation with international organizations, foreign states — including those of the South Caucasus and neighbouring countries — and through the involvement of national and local governance bodies, NGOs and the population in developing and implementing initiatives to minimize disaster risk.

Since 1993, the Emergency Management Administration (now the ARS) has played an active role on the Interstate Council of natural and man-made disasters of CIS countries and on the Scientific Council, identifying and implementing the coordination of scientific research on emergencies.

Furthermore, the ARS together with relevant institutional organizations actively represents Armenia in all forums organized by United Nations, European Union (EU) and North Atlantic Treaty Organization (NATO) in the field of safety from disasters caused by natural and technological hazards.

In the two decades since the 1988 earthquake, the Armenian Government has passed significant legislation to improve risk reduction and emergency management systems, including laws and measures on risk reduction and emergency management. The laws include: the Law on Armenian Rescue Service (2005); the Law on Rescue Forces and Status of Rescuers (2004); the Law on Civil Defense (2002); the Water Code (2002); Law on Seismic Protection (2002); the Law on Fire Safety (2001); the Law on Protection of Population in Emergency Situations (1998); the Law on Protection (1997, revised in 2008); Martial Law (1997, revised into the Law on the Legal Regime of the State of Martial Law in 2006); the Law on Internal Troops (1997); and the Law on Local Self-governing (1996).

Other relevant legislation includes the Law on Safe Utilization of Atomic energy for Peaceful Purposes; Law on Environmental Education and Public Awareness; Law on Task Force and Status of a Rescuer; and Principals of Environmental Legislation.

However, these laws have diffused government responsibility for disasters caused by natural hazards and the response to emergencies among multiple agencies. Some roles are clearly defined and others are not, which has created some confusion and duplication of efforts.

Although several organizations are implementing emergency management measures in Armenia, so far the country lacks a comprehensive disaster risk management strategy that includes prevention, response, recovery and adaptation measures. One of the main recommendations to address the shortfalls in risk reduction and emergency management proposed by several international development partners to the Government of Armenia is to develop a comprehensive national plan of action, providing for the overall coordination of all the partners involved in a disaster response at national, regional and local level.

---


How education is used to promote safety

One of the ways in which the Armenian Government has demonstrated a commitment to disaster risk reduction as a priority area has been through its formation of an adequate national legislative base for the creation and updating of capacity-building measures for training and education.

As part of the measures, the ARS maintains a State Academy of Crisis Management, which is the only emergency management school in the CIS region. The Academy provides vocational education and training, specialized rescue training, higher education courses for bachelor and master degrees, and emergency management education for teachers and students. The ARS also manages a Public Information Centre with a mandate to increase public awareness of emergency preparedness through mass media information campaigns and press conferences.

Other examples of information dissemination include seminars and workshops held by the ARS to increase preparedness with regard to chemical, radiological and bacteriological hazards.

An initiative was jointly performed with and supported by the Asian Disaster Reduction Centre aimed at promoting the integration of earthquake disaster risk reduction into school curricula. The initiative was designed to empower students and teachers, and help build greater disaster awareness in communities.

Furthermore, tangible results have been achieved through the National Programme on Seismic Risk Reduction. The decision was made to extend the initiative following its early successes in which 250 students and teachers received training and knowledge. In the second phase the scope of the audience was extended to involve new schools and communities as well as increased awareness and preparedness of the positive impacts of earthquake disaster risk reduction in schools.

Selected national and international partners involved in disaster risk reduction

National organizations

• The traditional partner of the MoES, together with the State Academy of Crisis Management, Armenian National Survey for Seismic Protection and other governmental entities, is the Armenian Red Cross Society (ARCS). In 1997, the two organizations signed a Memorandum of Understanding (MoU) on joint cooperation and coordination in disaster response, public awareness, disaster risk reduction and in other directions. The following year, ARCS established its disaster preparedness and response structure.

In parallel with building its disaster management capacity, the ARCS has concentrated on educating communities. As part of this a number of training sessions have been conducted across the country and a number of educational materials have been printed and distributed to the population. The main focus has been on school children, who are recognized as one of the most vulnerable groups. Around 500,000 copies of educational material on disasters caused by natural and technological hazards have been developed and disseminated throughout the country, serving as a basis for different awareness-raising events on disasters, mainly at schools. The most successful and best received among children was the series of Aghetik (Disaster) educational books, developed by the State Academy of Crisis Management. Two animations with the themes “aghetik and earthquakes” and “aghetik in routine life” based on educational material were created and broadcast, as well as other disaster risk reduction-related programmes on both TV and radio.

The ARCS also regularly organizes evacuation simulations in schools in order to help teachers and pupils develop the necessary skills to vacate buildings during emergencies in an organized manner. Since 1998, 169 such simulation evacuations in 169 schools have been conducted, with the involvement of 95,350 pupils and 7,454 teachers.

Within the framework of the Disaster Management Programme, the ARCS has implemented mini projects such as the National Drawing Competition, the Children’s Quiz and the Life Skills and Young Rescuers Competition (in cooperation with the International Federation of Red Cross and Red Crescent Societies [IFRC], UNDP and SDC).

• The Armenia National Survey for Seismic Protection is another national stakeholder active in disaster risk reduction. As part of the World Disaster Reduction Campaign 2006–2007 with the theme Disaster Risk Reduction Begins at School, and in collaboration with the Asian Disaster Reduction Centre, a seismic risk reduction project for schools was initiated, recognising that school students who know how to react in the event of a disaster can make a difference in protecting others. The project helped turn hundreds of students, teachers and school principals into seismic risk reduction trainers; school hazard mapping was conducted; and a damage and loss assessment was completed.

United Nations and other international organizations

• Simultaneous with these activities, since 2004 the Swiss Agency for Development and Cooperation (SDC) has implemented the project Ardzagank (Response) with the aim of strengthening the country’s decentralized disaster response structure by intensifying the training of ARS fire-fighters and volunteers of the ARCS and other groups by spreading rescue know-how at the local level. As a follow-up, in 2007 SDC initiated the pilot project Firemen in Communities together with the
ARS Information Centre. The objective of the project is to engage fire-fighters into the public awareness campaign and to promote them as “resource people” at local level.

- UNDP is actively supporting the Government’s disaster management. A Disaster Management Group meets periodically to review the state of preparedness and to exchange information related to disaster risk reduction. Together with SDC, UNDP has supported the disaster preparedness training of schoolchildren in several districts. The establishment of the ARS theoretical training centre was supervised by UNDP.

- UNICEF has been working in Armenia since 1994, helping the Government to ensure that children grow healthy, educated and protected from abuse and neglect, trafficking and HIV/AIDS. Under the UNICEF 2005–2009 Country Programme the main areas of work included health and nutrition, education, protection of child rights and promotion of adolescents’ health and development.

In the education sector, among other activities UNICEF is assisting the Government to ensure that all children in Armenia go to school prepared and receive a quality primary education. Between 2005 and 2007 UNICEF collaborated with UNDP on an education project involving the risks posed by mines. The introduction of the life skills project from 2005 to 2009 is one of several education reform initiatives that have been undertaken in Armenia since 1995. The syllabus Me and the Surrounding World, which is included in the primary-school curriculum, incorporates life skills topics and methodology, including disaster preparedness. UNICEF also devised the conceptual standards for child-friendly schools to ensure a safe and enabling school environment for all children.

To promote adolescent health and development, among other activities UNICEF also promotes the introduction of life skills-based education in the upper grades of secondary schools, with a particular focus on HIV/AIDS and healthy lifestyles. The healthy lifestyles curriculum was developed and piloted in the upper grades of 30 schools, with relevant trainings and guidelines provided to teachers of those schools. Among other subjects, life skills education is integrated into the State curriculum and includes a significant component on disaster preparedness and reduction for school children. During interactive lessons, children learn how to behave in times of disasters caused by natural hazards, and practice skills that could be life saving.

In March 2007, UNICEF – in partnership with UNISDR – held a workshop on Earthquake-Safer Schools, in Yerevan. The key workshop objective was to increase the awareness of school administrators on school resilience to earthquakes and their actions before, during, and after an earthquake, and to facilitate a dialogue between school administrators, government officials and international organizations. The workshop identified problems shared by schools in other CIS countries. These included an absence of textbooks, information and other materials; lack of clear guidelines on risk and loss assessment; and poor coordination between schools and other structures responsible for disaster preparedness and response.

One of the recommendations made by workshop participants was that more relevant information and educational materials (including videos and cartoons) on emergency preparedness in the local language should be disseminated. Participants suggested that UNICEF and UNISDR should continue to expand their cooperation in this sphere.

The workshop agenda included the development of school contingency plans in case of disasters. As a follow up to this training, teaching and learning materials on “earthquake safety” were translated and incorporated into various syllabi by the National Institute of Education.

UNICEF 2010–2015 Country Programme outcomes on health, nutrition, education and child protection will contribute mainly to the strengthening of democratic governance, access to and quality of social services, and disaster risk reduction and the reduction of risks to the environment.

- Armenia has officially appointed an HFA Focal Point (Annex 3) as a first step in its implementation and pursuit of HFA objectives and strategic goals. As presented above, within the framework of the 2006–2007 UNISDR World Disaster Reduction Campaign: Disaster Reduction Begins at School, a single training project held over several months helped turn 375 school students, teachers and school principals into qualified disaster risk reduction trainers. Armenia also actively participated at the Asian Conference on Disaster Reduction, held in June 2007, as well as at the Euro-Mediterranean Workshop on Disaster Reduction at School, held in October 2007.
Hazards and disasters overview

Azerbaijan’s topography and water-related fluctuations in the Caspian Sea\(^8\) make it susceptible to heavy flooding. Analysis of the disaster data show that floods have affected a large number of people and caused significant economic losses in the past 20 years. The April 2003 flood in the Ismayilli-Gobustan region alone affected 31,500 people and caused an economic loss of $55 million. In June 1997, a flood in the Tovuz-Khanlar region affected 75,000 people and caused an economic loss of $25 million.

The country is also vulnerable to other disasters caused by natural hazards, including earthquakes, droughts, landslides, avalanches, debris flows and mud flows. As per GSHAP\(^9\), Azerbaijan lies in a region with moderate to very high seismic hazard. A magnitude 6.3 earthquake in the Baku region in November 2000 killed 31 people, affected 3,294 others and incurred a reported economic loss of $10 million. An earthquake in July 1998 reportedly killed one person, affected a large number of people and damaged hundreds of houses.

Also in 2000, a severe drought caused an economic loss of $100 million.

Occurrences of landslides during heavy rains cause significant damage to human settlements, industry, farms and roads\(^10\). However, the only reported disaster event due to a landslide was in April 2000. A total of 11 people were killed and economic loss amounted to $4 million.

Azerbaijan also suffered from several technological disasters. There were reportedly 11 major transport accidents along with one major industrial accident between 1988 and 2007. These accidents killed 700 people and affected 357 others. However, no economic loss figures are available. The country also faces a possible nuclear radiation hazard originating from the nuclear plant at Metsamor, in Armenia, and there are chemical hazards from pipelines and facilities, along with water pollution, etc.


### Table 3. Azerbaijan: Summary data on disasters caused by natural (1995–2003) and technological hazards (1992–2007), including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>1</td>
<td>4.76</td>
<td>0</td>
<td>0</td>
<td>100,000,000</td>
</tr>
<tr>
<td>Earthquake</td>
<td>3</td>
<td>14.29</td>
<td>33</td>
<td>712,474</td>
<td>15,000,000</td>
</tr>
<tr>
<td>Flood</td>
<td>5</td>
<td>23.81</td>
<td>16</td>
<td>1,765,300</td>
<td>96,200,000</td>
</tr>
<tr>
<td>Slide</td>
<td>1</td>
<td>4.76</td>
<td>11</td>
<td>0</td>
<td>4,000,000</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>10</td>
<td>47.62</td>
<td>618</td>
<td>357</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>1</td>
<td>4.76</td>
<td>25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21</strong></td>
<td><strong>100</strong></td>
<td><strong>703</strong></td>
<td><strong>2,478,131</strong></td>
<td><strong>215,200,000</strong></td>
</tr>
</tbody>
</table>
EM-DAT shows (Table 3.) that during 1995–2003, floods accounted for the major share of disaster events, followed by earthquakes.

Disaster management structure and legislation

The existing legal framework and institutional arrangements relating to emergency management and disaster risk reduction in Azerbaijan are challenged by the lack of policy in this area.

At present, the State Emergency Commission – an interagency governmental entity subordinate to the Vice Prime Minister that was created in 1995 to supplement the Civil Defense Board – operates on only an as-needed basis without a formal policy, even though it is responsible for arrangements to prevent and minimize damage and the loss of human life in the event of a disaster. By being only response-oriented, the structure is not focused enough on various aspects of prevention, mitigation and preparedness, or on the incorporation of disaster management considerations into investment decisions, public awareness and similar.

As it is, there is no permanently-functioning body in Azerbaijan dealing with disaster management, with the partial exception of the Emergency Response Centre – part of the Ministry of Ecology and Natural Resources – which was created in part to coordinate work on oil-related emergencies.

The management of disasters at the local level is driven by the local executive power (a governor). Governors are also responsible for the preparation of local contingency and response plans. These plans tend to vary in quality and completeness.

Existing disaster management structures, especially the State Emergency Committee, have proven to react relatively slowly during recent emergencies, when the international community was much faster in conducting emergency assessments, launching appeals for assistance, and delivering much of that assistance.

Current legislation in the realm of disaster risk reduction includes the Law on Environmental Protection and Utilization of Natural Resources, and the Law on Environmental Safety. A draft legislative framework related to disaster management has been finalized, along with a draft National Strategy Plan and Plan of Action. Interagency Contingency Planning for Azerbaijan has been developed and nine regional disaster management training and operational centres have been established. International and national experts have trained 42 government officials in coordinated response and management skills. Approximately 8,500 government officials have been trained in disaster preparedness and coordination in emergency situations. Furthermore, written material for inclusion in the curricula and textbooks on the fundamentals of disaster preparedness have been drafted.

A draft legislative framework related to disaster management has been finalized, along with a draft National Strategy Plan and Plan of Action. Interagency Contingency Planning for Azerbaijan has been developed and nine regional disaster management training and operational centres have been established. International and national experts have trained 42 government officials in coordinated response and management skills. Approximately 8,500 government officials have been trained in disaster preparedness and coordination in emergency situations. Furthermore, written material for inclusion in the curricula and textbooks on the fundamentals of disaster preparedness have been drafted.

How education is used to promote safety

Selected national and international partners involved in disaster risk reduction

National organizations

- The Azerbaijan Red Crescent Society (AzRC) is one of the members of the State Emergency Commission and is primarily oriented toward emergency response coordination and improved resource mobilization. Within that framework, and together with other activities, AzRC has built the capacity of local branches by conducting trainings, seminars and simulation exercises. At the same time, for the purposes of increasing the preparedness at the community level, a booklet What to do before, during and after an earthquake has been developed and disseminated among the public. A film on this topic has also been made. Furthermore, the decision has been reached to develop and implement training modules focused on disaster preparedness for school children in eight communities.

United Nations and other international organizations

- The UNDP, in partnership with a number of state bodies, NGOs and representatives of the private sector, has developed the National Programme for Developing and Reorganizing the System for Disaster Management Training with the aim of addressing issues related to national policy on disaster management and disaster risk reduction. The project partners include the State Emergency Commission; the Institute for Seismology under the Academy of Sciences; the Ministries of Education, Communication, and Environment; the Shell oil company; and other private sector representatives and National NGOs, including the AzRC.

The project intervention focused on disaster mitigation and preparedness countrywide. Specifically, it aimed to assist the Government in drafting a National Disaster Preparedness and Management Plan with accompanying standing orders for all relevant ministries, committees, institutions and regions outlining their respective roles and responsibilities, as well as to establish national and regional centres to train management staff and to educate the population, and to develop and implement awareness-raising programmes at all levels: national, regional and community.

A draft legislative framework related to disaster management has been finalized, along with a draft National Strategy Plan and Plan of Action. Interagency Contingency Planning for Azerbaijan has been developed and nine regional disaster management training and operational centres have been established. International and national experts have trained 42 government officials in coordinated response and management skills. Approximately 8,500 government officials have been trained in disaster preparedness and coordination in emergency situations. Furthermore, written material for inclusion in the curricula and textbooks on the fundamentals of disaster preparedness have been drafted.

- UNICEF has been operating in Azerbaijan since 1993 and as part of its work has been helping in the Government’s root and branch reform of the education sector.
The organization’s country programme for 2005–2009, which has been extended until 2010, has as its goal “all rights for all children, with no child left out”. Among other activities, it is focusing on emergency preparedness, including mine-awareness education for children and advocacy for the ratification of the Ottawa Convention on the prohibition of the use, stockpiling, production and transfer of anti-personnel mines and on their destruction. The programme has helped strengthen emergency preparedness and response by monitoring and updating scenarios and contingency plans, and building up national capacities for contingency planning. Communities in the eight focus districts have been able to prepare their own contingency plans to better cope with potential risks.

The programme has also helped strengthen the capacity of the Government, local authorities and communities to plan, manage and implement integrated programmes, including the concerted effort to improve emergency preparedness capacities. As part of the Early Warning Early Action project, introduced in 2009, risk reduction plans have been developed for education programming as part of the emergency preparedness aspect of the country programme.

Strong and effective partnerships and alliance-building with the media, parliamentarians, academic institutions, NGOs and the private sector on child rights and needs will, through advocacy and communication, increase the knowledge information base in the country.

Within the previous country programme framework, a network of 25 schools practising a new way of teaching and learning championed by UNICEF called “active learning” were established. The programme involved the introduction of modern techniques in classrooms, such as the use of group work and student presentations to improve children’s critical thinking skills and their ability to participate and express themselves. The schools encompass child-centred, competency-based teaching and learning with parental involvement in school governance.

The mainstreaming of active learning into the education reforms continued with active learning integrated into the pre-service and in-service teacher training curricula in 2008. The programme supports the active learning policy, which seeks to ensure that all schools in Azerbaijan are “child-friendly” and meet certain minimum standards for effectiveness, safety and participation.
Hazards and disasters overview

The predominantly flat terrain of Belarus with its 4,000 lakes and large tracts of forest land is vulnerable to natural hazards including floods, extreme temperatures, wind storms and epidemics. EM-DAT shows (Table 4) that during the period 1993–2007, floods accounted for the major share of disaster events, affected the largest number of people (42,000) and caused an economic loss of $104 million, the largest of any disaster.

The next most costly disaster events were wind storms, which between 1993 and 2006 caused an economic loss of $33 million and affected a total of over 21,000 people. Extreme temperatures also caused a large economic loss (over $30 million), killed five people and affected a further 1,820. In terms of number of people killed, epidemics were the most dangerous disasters caused by natural hazards, claiming the lives of 13 people.

Although there was only one major transport accident reported during this period, it accounted for the second largest number of deaths of any disaster, claiming the lives of 21 people. There were two major miscellaneous accidents over the period, claiming the lives of 85 people.

Disaster management structure and legislation

The Ministry for Emergency Situations of the Republic of Belarus (MES) is the state agency that exercises control and management in the sphere of emergency prevention, along with other duties related to disaster management and disaster risk reduction. It is the responsibility of the MES to carry out national policy in the field of prevention and “eradication” of natural and technological emergencies (including accidents and disasters caused by natural or technological hazards).

The MES consists of specialized departments and units including: the Republican Special Team; the Air Search and Rescue Service; the Republican Centre for Emergency Management and Response; the Republican Centre for Certification and Examination; the Republican Logistic Centre; the Republican Information and Propagation Centre; and the Scientific and Research Institute on Fire Safety and Emergency Situations.

It also includes four educational entities: the Command and Engineering Institute, which carries out professional training in specialist areas including “Prevention and eradication of emergency situations” and “The safety of people, objects and territories in emergency situations”; the Gomel Engineering Institute, which carries out the

Table 4. Belarus: Summary data on disasters caused by natural (1993–2006) and technological hazards, including number of human casualties and economic impact.

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemic</td>
<td>2</td>
<td>16.67</td>
<td>13</td>
<td>887</td>
<td>0</td>
</tr>
<tr>
<td>Extreme temperature</td>
<td>2</td>
<td>16.67</td>
<td>5</td>
<td>1,820</td>
<td>30,300,000</td>
</tr>
<tr>
<td>Flood</td>
<td>3</td>
<td>24.99</td>
<td>2</td>
<td>42,000</td>
<td>104,380,000</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>2</td>
<td>16.67</td>
<td>5</td>
<td>21,390</td>
<td>33,000,000</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>1</td>
<td>8.33</td>
<td>21</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>2</td>
<td>16.67</td>
<td>85</td>
<td>109</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100</td>
<td>131</td>
<td>66,206</td>
<td>167,680,000</td>
</tr>
</tbody>
</table>
most advanced training on “Prevention and eradication of emergency situations”; the Institute of Retraining and Professional Development, which is the National Training Centre for militarized fire service staff of the Ministry of Internal Affairs – an independent educational division directly subordinate to the Central Board of the Militarized Fire Service of the Ministry of Internal Affairs; and the fourth institution, which is a college under the Gomel Engineering Institute which provides general secondary education with advanced teaching and specialist vocational training for students entering the MES. The whole organizational structure is based on military principles, and the purpose of all four educational entities is to teach and train MES professional staff.

There are numerous pieces of legislation covering the prevention and management of emergency situations in Belarus. They include: the Protection of the Population and the Territories in Natural and Man-made Disasters Act; the Fire Safety Act; the Radiation Safety for the Population Act; the Industrial Safety and Dangerous Industrial Works Act; the Rescue Services and Status of the Rescuer Act; and the Transportation of Dangerous Substances Act. Draft legislation prepared for Parliamentary consideration includes the Services of the Ministry for Emergency Situations of the Republic of Belarus Act; the State of Emergency Act; and the Oil and Gas Pipeline Transportation Act.

How education is used to promote safety

Selected national and international partners involved in disaster risk reduction

National organizations

United Nations and other international organizations

• The overall goal of the UNICEF 2006–2010 Country Programme is to support national plans and priorities to increase children’s and young people’s opportunities to enjoy their rights to survival, development, protection and participation. The programme is focused on policy improvement and the development of linkages and complementarities between interventions, as well as upon the most vulnerable such as children with disabilities and those deprived of parental care or in conflict with the law.

The first programme component focuses on the creation of an “enabling environment” for young children focusing on early childhood development, while the second component aims to protect children and young people from HIV and other related risks. The third component centres on improving the environment for children and young people in need of special protection measures.

UNICEF programme activities previously had the overall goal of strengthening the capacity of the Government and civil society to fulfil and protect children’s rights in Belarus. In 2004, life skills-based education was introduced into the national school curriculum and further reinforced through peer education programmes. Youth participation in the promotion of healthy lifestyles, again through peer education programmes and also youth media initiatives, proved to be effective in building communication channels.

The Government of Belarus will continue to be the major partner of UNICEF and the organization plans to strengthen coordination and cooperation with ministries working for children, young people, women and families, as well as with non-governmental and civil society organizations, academic and research institutions and the media.
Hazards and disasters overview

Bosnia and Herzegovina lies in one of the most earthquake-prone areas of the Balkan Peninsula, which is part of the Mediterranean-Transasian seismic belt. Although EM-DAT does not record any large earthquakes, data shows that several events have occurred in the area of Banja Luka (in 1884, 1935, 1969 and 1981). The 1969 earthquake was the most severe, killing 15 people, injuring a further 1,117 and destroying 43.2 per cent of the urban housing stock.

The country is also vulnerable to disasters including floods, landslides, droughts, extreme temperatures, wildfires, epidemics and wind storms, and technological hazards (notably traffic and coal mine accidents). Floods, wildfires, industrial accidents and environmental pollution have a potential cross-border impact.

EM-DAT hazard incidence shows (Table 5) that during 1999–2007, floods accounted for the major share of disasters, with four events affecting over 290,000 people. This was followed by droughts, which affected over 62,000 people, and wind storms, which killed four people and affected over 1,000 others. There were two technology-related disasters reported in the period 1997–2000, both of them major traffic accidents.

The data shows that drought-related hazards have also had a big impact on the country, and the drought risk is high in the north-east and south-west. The May 2003 drought affected large parts of Bosnia and Herzegovina and triggered wildfires that caused damage amounting to $250 million.

The country has two watersheds: the Sava basin, which covers 74 per cent of the country, and the Adriatic basin, which covers 26 per cent. Fifty-eight per cent of water outflow goes towards the Sava River, and 42 per cent goes towards the Adriatic Sea. EM-DAT shows that during 2001–2005 four major flood events were recorded. The flood of April 2004 affected 275,000 people in the country.

The Sava River and its tributaries frequently flood, as do the great karst valleys as a result of unequal water inflow and outflow. About 2,500 square kilometres (approximately 60 per cent of all plains and lowlands) are prone


<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>2</td>
<td>14.29</td>
<td>0</td>
<td>62,575</td>
<td>298,000,000</td>
</tr>
<tr>
<td>Epidemic</td>
<td>1</td>
<td>7.14</td>
<td>0</td>
<td>400</td>
<td>0</td>
</tr>
<tr>
<td>Extreme temp.</td>
<td>1</td>
<td>7.14</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>4</td>
<td>28.57</td>
<td>0</td>
<td>290,100</td>
<td>0</td>
</tr>
<tr>
<td>Slide</td>
<td>1</td>
<td>7.14</td>
<td>6</td>
<td>403</td>
<td>0</td>
</tr>
<tr>
<td>Wildfire</td>
<td>1</td>
<td>7.14</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>2</td>
<td>14.29</td>
<td>4</td>
<td>1,090</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>2</td>
<td>14.29</td>
<td>56</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
<td><strong>100</strong></td>
<td><strong>66</strong></td>
<td><strong>354,579</strong></td>
<td><strong>298,000,000</strong></td>
</tr>
</tbody>
</table>
to floods in Bosnia and Herzegovina. There were enough flood protection structures to protect 50 per cent of the flood-prone areas, but many of these were destroyed during the war.

The occurrence of landslides in the mountainous parts of Bosnia and Herzegovina is very frequent due to subsurface water flow. Landslides in the Zenica area in 2000 killed seven people, left many families homeless, and destroyed the Sarajevo-Pale road. The number of landslides increased considerably during the war and in its aftermath, due to both uncontrolled exploitation of forests and minerals, which changed water and land regimes, and to increased illegal and unplanned construction.

Soil settling due to underground exploitation of minerals also represents a hazard. Salt mining in the Tuzla area has had very harmful consequences, with over 25 per cent of urban areas affected.

Large landslides have also occurred in the Breza coal mine, the Koritnik open-cut mine, the Vares mine and steel plant, and the Smreka open-cut mine.

Of all technological hazards, transport accidents have contributed the most deaths, with 56 people killed in two events.

**Disaster management structure and legislation**

Legislation relating to civil protection is currently undergoing major transition to a new framework of laws prepared with the support of UNDP and NATO. Of particular note is the Law on Protection and Rescue, which details the responsibilities and authorities of the Sector for Civil Protection, including with regard to disaster management and disaster risk reduction. It covers people and assets in cases of disasters caused by natural hazards, and was passed in May 2008.

Among other things, the law defines protection and rescue of people and material goods in cases of disasters caused by natural or other hazards in Bosnia and Herzegovina; the execution of international obligations and cooperation in the area of protection and rescue; and the channels of authority and coordination of activities of Bosnia and Herzegovina institutions and bodies, entity administrations involved in civil protection and the authorized civil protection body in Brčko District. The law prescribes the founding of the State Operation Communication Centre and establishment of a 112 emergency number.

Other relevant laws include the Law on Transport of Dangerous Substances in Bosnia and Herzegovina; the Law on Environmental Protection, both of which are at an advanced stage of preparation; the Law on Ministries and other Administrative Bodies in Bosnia and Herzegovina\(^\text{11}\), which transfers some civil protection competences from entity to State level and also defines the procedures for approval of military assistance to civilian authorities in case of disasters; the Law on Defence of Bosnia and Herzegovina; the Law on Mine Clearance in Bosnia and Herzegovina; and the Law on the Red Cross Association of Bosnia and Herzegovina. There are several other laws promulgated by the Bosnia and Herzegovina State Parliament with potential bearing during emergencies\(^\text{12}\).

In terms of legislation, the two entities – the Republic of Srpska and the Federation of Bosnia and Herzegovina – exercise a degree of autonomy from the State under which they have full independence when it comes to operational matters but are under the mandate of the Ministry of Security of Bosnia and Herzegovina in matters including strategic planning, coordination and international cooperation. The Federation of Bosnia and Herzegovina is highly decentralized, with 10 cantonal governments. Brčko District is a third administrative unit, which has been under international administration. In March 2009, the Constitution of Bosnia and Herzegovina was amended to define Brčko District on the basis of the awards of the Arbitral Tribunal and to ensure the District effective access to the Bosnia and Herzegovina Constitutional Court.

The country as a whole has 14 governance units, 5 levels of administration and more than 150 ministries and governmental agencies. In terms of civil protection structures, the entities are both financially and jurisdictionally autonomous from the State. Each level has its own specific mandate, with the State focusing on civil protection strategy while the entities focus on operational matters.

The current legislation is based on a set of laws defining the roles and competences of all the administrative levels involved in civil protection.

At State level, the Sector for Civil Protection of the Ministry of Security is the central body with competences in, and responsibility for, international cooperation, internal coordination, strategic planning of protection and rescue measures and training programmes. Three departments have been established within the Sector: the Department for Strategic Planning of Protection and Rescue Measures; the Department for Structures and Training; and the Department of International Cooperation.

The Sector for Civil Protection objectives for 2008–2009 were the establishment of an effective disaster management and coordination body and Operational 112 Centre; development of strategic documents specified in the State law (Methodology of Risk Assessment, Risk Assessment, and Emergency Response Plan); protection and rescue coordination, including better networking with Ministry

---

\(^\text{11}\) Official Gazette of Bosnia and Herzegovina, n. 5/03 and 45/06.

\(^\text{12}\) Other laws and programmes include: The Law on the Protection of Forests (OGBH, n. 25/03); the Law on Veterinary Science in Bosnia and Herzegovina (OGBH, n. 34/02); The Law on Food (OGBH, n. 50/04); the Law on the Implementation of the Convention on Prevention of Development, Production, Accumulation and Use of Chemical Weapons and their Destruction (OGBH, n. 15/06); the Law on the Protection against Radiation and Nuclear Safety (OGBH, n. 88/07); the Bosnia and Herzegovina Strategy for Action against Terrorism (2006-2009); the Program of Protection against Chemical Weapons and Reaction in Case of Disaster and Incidents that Include Chemicals (OGBH, n. 80/06); and the Law on Council of Ministers of Bosnia and Herzegovina.
of Defence and other authorities; enhanced international cooperation; and harmonization of protection and rescue law with by-laws in Bosnia and Herzegovina.

The Ministry of Security coordinates and manages planning and exchange of data and information, and reports on the risk reduction activities of entities and Brčko District.

The entities and Brčko District, within the framework of their competences in the area of protection and rescue, define, plan, train, organise, finance and execute protection and rescue with the aim of reducing risks and removing or mitigating the harmful consequences of disasters caused by natural or other hazards.

How education is used to promote safety

Current legislation on disaster management provides the opportunity to develop formal education programmes as part of school curricula, but due to the ongoing educational reforms disaster risk reduction has yet to be mainstreamed. Indeed, the education system does not yet address the more basic notion of “protection and rescue”.

Nevertheless, there are some sporadic activities undertaken at the local level – such as visits to schools by firefighters, or civil protection or Red Crescent staff – but the approach is neither strategic nor systematic. Other activities include training programmes targeting government officials at state and entity levels, some of which have been developed within the framework of multilateral or bilateral international cooperation.

Selected national and international partners involved in disaster risk reduction

National organizations

- In the event of disasters, the Ministry of Security cooperates with the Red Cross Association and other humanitarian organisations to manage protection and rescue operations.

In February 2008 a protocol was signed with the Red Cross for cooperation over, and financing of, the development of protection and rescue units under the responsibility of the Red Cross through its 20 canton-based and 125 local units.

The Law on the Red Cross Association of Bosnia and Herzegovina defines the role and the competences of the Red Cross in cases of disasters caused by natural hazards, epidemics or other emergencies. The Red Cross Association has authority over energy supply, border control, transport of people and goods, as well as broadcast of information.

United Nations and other international organizations

- UNICEF has traditionally been viewed in the particular context of Bosnia and Herzegovina as a promoter of children’s and women’s rights through its role as facilitator and mediator between the various levels of government and civil society, and in bringing together stakeholders to debate and agree on strategies for implementing child rights, education reform, child protection and HIV/AIDS.

As part of the implementation of education reforms, cooperation between local NGOs and ministries of education has resulted in 27 per cent of primary schools adopting and implementing the “child-centred” teaching and learning approach. With support from the European Commission, a network of 30 local NGOs was mobilized to develop common standards, modules and methodologies for the promotion of child rights and peer-education, and ensure the participation of some 15,000 children in community projects and volunteer work.

The goal of the UNICEF 2005–2008 Country Programme, which was extended to 2009 to harmonize cycles with other agencies, was specifically aimed at ensuring the inclusion of all children, young people and women in the provision of basic education, health and child-protection services. The programme had three major outcomes: for policy makers and community representatives to provide leadership in developing national policies that contribute to realizing the rights of children, young people and women; for service providers and caregivers to adopt behaviours that facilitate access to education, health and child-protection services for the most vulnerable; and for policy makers and community representatives to encourage and facilitate the meaningful participation of children and young people in their communities, including in addressing the risk of landmines.

Following the implementation of the life skills project in high schools, UNICEF now considers that a similar project focusing on risk behaviour and life hazards and implemented at primary school level would yield better results. In addition, UNICEF recognizes that there is a need to educate adults, including parents, municipal officials and teachers, as well as children and young people in appropriate attitudes and skills. To achieve this, schools and the media are recognized as having key importance in the creation of an enabling environment for participation.

Key results are as follows: for municipal governments, civil society and schools to enable an increased number of children and young people to participate meaningfully in their communities and in the monitoring of the State Plan of Action for Children; for 450 primary schools to institutionalize child participation; for media programmes to be developed with the involvement of children and broadcast media; and for communities in 154 areas highly affected by mines to be able to

---

15 Official Gazette of Bosnia and Herzegovina, n. 49/04.
assess, develop and implement responses to risks associated with mine action. This includes mine-risk education and mine victim assistance, including on small arms and light weapons, and will reach approximately 100,000 people.

The current country programme, which will run from 2010 to 2014, includes support in setting up coordination mechanisms and contingency plans for emergency preparedness and response. The 2010–2011 Work Plan on education includes as one of its activities the coordination of activities and increased capacity of stakeholders for education on emergency preparedness and response.

In 2008, UNICEF initiated training workshops within the United Nations Country Team on emergency preparedness and took the lead in facilitating discussions on cluster coordination. UNICEF is continuing to promote inter-agency coordination for emergency preparedness and is planning to actively contribute to the development of strategies and plans, including on Inter-Agency Standing Committee cluster coordination.

UNICEF is also planning to work more closely with national authorities to develop national capacities and facilitate coordination on emergency preparedness and disaster risk reduction.

- Bosnia and Herzegovina has officially appointed an HFA Focal Point (Annex 3) as a first step in its implementation and pursuit of HFA objectives and strategic goals. During the spring of 2007, and within the framework of SEEDRMI, direct communication was established between Bosnia and Herzegovina national authorities and UNISDR. As a follow-up, Bosnia and Herzegovina actively participated in the first session of the Global Platform for Disaster Risk Reduction, held in June 2007, and has informed UNISDR of its intentions to establish an official National Platform in the near future.

In August 2009, it hosted a national workshop in collaboration with UNISDR, WB, CADRI, DPP SEE and UNDP, to promote national capacities to establish a National Platform for DRR. The workshop was also supported by the GFDRR.
Hazards and disasters overview

Bulgaria is vulnerable to a number of disasters caused by natural hazards, but the country is most susceptible to floods. EM-DAT shows (Table 6) that during 1928–2007 floods accounted for the major share of disaster events and by far the largest financial losses. The country is also vulnerable to other disasters caused by natural hazards, including droughts, extreme temperatures, landslides, wildfires and wind storms. Furthermore, Bulgaria has historic records of major earthquakes which, after considering their return period, show that there is also a high probability of earthquake occurrence.

One of the most severe floods occurred between 25 May and 12 August, 2005. It was the worst flooding in the past 70 years, and the rivers Yantra, Kamchiya, Roussensky Lom and their subsidiary streams burst their banks, affecting about 70 per cent of the territory of Bulgaria. Losses were enormous in the affected areas. The main impact of the flooding was on infrastructure and agriculture, which accounted for the biggest losses and had repercussions for the general economy of the area. According to the Ministry of Agriculture, over 10,500 animals drowned. Some 3,645 inhabited buildings were declared unsuitable for habitation, and residents had to be moved to temporary shelters, mostly in schools or with host families. A state of emergency was declared in the affected areas and the Government established an Intersectoral Coordination Committee at central level. Reported damage from the 2005 flood was more than $260 million.

Landslides are also common in Bulgaria because of its hilly and mountainous terrain. One major landslide occurred on 17 December 1965 in the Rila mountains, killing 11 people.

---

Table 6. Bulgaria: Summary data on disasters caused by natural (1928–2007) and technological hazards (1916–1996), including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>2</td>
<td>5.00</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Earthquake</td>
<td>5</td>
<td>12.50</td>
<td>131</td>
<td>3,752</td>
<td>0</td>
</tr>
<tr>
<td>Extreme Temperature</td>
<td>5</td>
<td>12.50</td>
<td>30</td>
<td>393</td>
<td>50,000</td>
</tr>
<tr>
<td>Flood</td>
<td>13</td>
<td>32.50</td>
<td>54</td>
<td>13,470</td>
<td>460,230,000</td>
</tr>
<tr>
<td>Slide</td>
<td>1</td>
<td>2.50</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wildfire</td>
<td>3</td>
<td>7.50</td>
<td>8</td>
<td>176</td>
<td>20,054,000</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>5</td>
<td>12.50</td>
<td>2</td>
<td>5,850</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>5</td>
<td>12.50</td>
<td>137</td>
<td>119</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>1</td>
<td>2.50</td>
<td>0</td>
<td>200</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
<td><strong>100</strong></td>
<td><strong>373</strong></td>
<td><strong>23,960</strong></td>
<td><strong>480,284,000</strong></td>
</tr>
</tbody>
</table>

---

14 It should be noted that there are no economic loss statistics for a number of disaster events, including earthquakes.

15 Information source: the Bulgarian National Association of Municipalities.

Damaging wind storms occur quite frequently. On 24 December 2001, a wind storm affected Shumen, Dobrich, Stara Zagora and Sofia, killing two people, while in November and December 1998 cold waves affected the Montana and Sofia regions, killing three people, injuring 23 and affecting 300 others. Wildfires have also been reported in Bulgaria. On 1 July 2000, a wildfire which struck Haskovo, Yambol, Bourgas, Stara Zagora and Plovdiv killed seven people, left 150 homeless and caused damage of $17.6 million.

Disaster management structure and legislation

Following the devastating floods of 2005, the Bulgarian Government initiated a detailed reform of the country’s protection and rescue system. As part of the reform the Disaster Protection Act was adopted, the State Agency for Civil Protection was dissolved and a new ministry, the Ministry of State Policy for Disasters and Accidents (renamed the Ministry of Emergency Situations [MES] in 2008), was established. The MES undertakes all civil protection activities in the event of disasters, coordinating the efforts of the executive administration and other bodies of governance, as well as legal entities, NGOs and citizens for disaster management.

The MES is organized into nine directorates (five directorates are part of the Specialized Administration and the other four are General Administration) and two directorates general: the National 112 System Directorate General, with six territorial units, and the National Civil Protection Service Directorate General, with 28 territorial units.

The Specialized Administration involves the National Civil Protection Service Directorate General, along with the following directorates: the Planning and Prevention Activities Directorate, which oversees the disaster planning process and the assessment of needs and the norms for protection of the population and critical infrastructure; the National Training Centre and Preparation of Private Sector Directorate; the Communication and Information Systems Directorate, which has an oversight on communication, warning and the new emergency number 112; the International Affairs Directorate; and the Recovery and Assistance Directorate, which is oriented towards technical guidance for the assistance of victims and management of the recovery process.

The official Specialized Administration website provides information on different natural hazards (earthquakes, floods, landslides, thunder storms, tornados, snow storms, fires) as well as technological hazards (industrial poisons, increased radioactivity, road accidents). For each hazard advice is given on how to react in an emergency situation. In addition for some hazards there exists advice on preventive measures. Significant focus has been addressed to international cooperation.

The main goal of the MES was the establishment of an effective, technically-adequate and materially-integrated system for prevention, preparedness, management and recovery in case of disasters. Central attention was given to prevention, training and response to disasters.

The regulatory framework for prevention and mitigation activities is provided by the Disaster Protection Act, which covers the organisation, major functions and tasks of national, regional and local administrations, companies and private contractors with regard to disaster risk reduction activities.

The aims, priorities and tasks of the prevention activities are set in the National Programme for Protection against Disasters. The Programme includes an organised and coordinated series of plans targeting disaster prevention and mitigation at all levels, and includes specific procedures for immediate relief including the provision of the means of survival necessary to regions affected by disaster. It also includes the study of potential hazards across the territory, each of which will be categorized and a prognosis provided regarding how to manage it.

Planning of disaster prevention is carried out at municipal, regional and national level. Preventive measures for disaster risk reduction include the establishment and/or modernization of systems for monitoring, forecasting and early warning.

The Disaster Protection Act, which was adopted in 2006, establishes the regulations covering the duty to preserve life and health, and protect the environment and property in the event of a disaster. The Act stipulates the activities related to the coordination and management of the rescue and emergency recovery efforts among the competent authorities – components of the created Integrated Rescue System – which must work together in the event of a disaster and form units of the unified rescue system.

The Disaster Protection Act regulates: the scope of, and the entities responsible for carrying out, preventive measures and activities; the Integrated Rescue System for disasters protection and the coordination between the institutional bodies and legal authorities; the coordination and leadership of rescue and urgent emergency recovery activities carried out in the area of disaster management, and the participation and cooperation of people – including those in the legal profession and sole traders – in case of disasters; the creation of volunteer units; and the competent authorities for the carrying out of training of executive authorities, managerial bodies on a central and local level, and other target groups among the population.

17 Ibid.
18 From “The Structure, Role and Mandate of Civil Protection in Disaster Risk Reduction for South Eastern Europe - South Eastern Europe Disaster Risk Mitigation and Adaptation Programme”, UNISDR, 2009.
19 Authority for protection of the population in the event of accidents or disasters has subsequently been transferred to the Ministry of Interior. It has a well-developed structure with central administration, 28 regional directorates, a National Situation Centre, Central Laboratory Complex and 15 structures for rescue and emergency recovery in the event of disasters.
Other relevant legislation involving protection against disasters includes the Crisis Management Act; the 112 Act; the Local Administration Act; the Waters Act; the Defence and Armed Forces Act; the Ministry of Internal Affairs Act; the Public Health Act; the State Administration Acts; other special laws; and related secondary legislation.

How education is used to promote safety

The Disaster Protection Act ensures that trainings and exercises are organized for central and territorial executive authorities, reaction forces and the public.

The MES, together with the Ministry of Education and Science, has introduced measures aimed at facilitating improved training in the field of civil protection in secondary and higher schools. The Ministry organizes the annual student competition “Protection in Case of Disasters, Accidents and Catastrophes”, as well as the national and international children’s art competition Mission Rescuer.

The MES also produces material for preschool children, including a colouring book which teaches children about the dangers associated with disasters and how to behave during them.

Meanwhile, a new methodology for civil protection education at schools was developed through funding from UNDP. The initiative includes teaching material for each stage of schooling in Bulgaria: elementary, secondary and higher schools. Furthermore, simulations and trainings are organized at least twice per year.

There is also a Center for Professional Training of Rescuers, which was licensed by the National Agency of Professional Education and Training. Its educational and practice facilities are located in the town of Montana. All newly-appointed rescuers are trained there and after successfully passing the course they acquire the professional qualification Rescuer in Case of Disasters, Accidents and Catastrophes.

Selected national and international partners involved in disaster risk reduction

National organizations

• In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction include the Central Laboratory for Seismic Mechanics and Earthquake Engineering; and the European Centre for Risk Prevention (CSLT), in Sofia.

United Nations and other international organizations

• The UNICEF 2010–2012 Country Programme has been developed. In the field of education UNICEF is cooperating at a national level with the Ministry of Education, mostly on prevention of school drop-outs and reintegration of pupils.

With regards to disaster prevention the reduction of natural hazards is included in the regular school curricula. According to disaster prevention law the national education system must include regular tuition on first aid and protection in the event of disasters, mostly at elementary level.

Many different projects have been implemented, such as award competitions, books published and didactic tools produced. The EU emergency number 112 is already operational in Bulgaria. Moreover, a special emergency number (hot line) for children (116 112) has been recently launched with the help of UNICEF.

The UNICEF 2006–2009 Country Programme focused on contributing to the Government’s ongoing efforts to improve the efficiency and utilization of budget allocations for children. One of the programme components was support for national authorities in conducting a comprehensive review of public expenditure on health, education, social protection and welfare. Another component contributed to strengthening the life skills component within the existing school curricula and through non-formal education.

The themes will be broadened to include subjects such as children’s rights, protection against HIV/AIDS and substance abuse, combating prejudice and discrimination, conflict resolution and consensus-building. Interactive learning methods that encourage discussion, negotiation and problem solving will be supported.

UNICEF recognizes that although over 90 per cent of children complete nine years of education in Bulgaria schools are ill adapted to preparing young people for employment in the modern-day market. Rural children have an average of three years’ less education than urban children. Furthermore, 42 per cent of the children of Roma families do not complete primary education and an estimated 13 per cent of Roma adults are illiterate, which represents an increase of 50 per cent between 1992 and 2001.

Moreover, the laws on compulsory education until age 16 and inclusive education for disabled children are not fully enforced. The increasing numbers of children who drop out of the national education system exposes many of them to exploitation, violence and abuse at an early age. The working groups which revised the implementation of the Convention on the Rights of the Child concluded that while reforms are under way as part of Bulgaria’s accession to the EU, the implementation of measures on child health, education and protection – especially among minority groups – has been slower than expected. More time and effort are needed to mobilize support for system change.

• Bulgaria has officially appointed an HFA Focal Point (Annex 3) as a step forward in its implementation and pursuit of HFA objectives and strategic goals.
Furthermore, Bulgaria has informed the UNISDR about the existence of an officially-designated National Platform: the Ministry of Emergency Situations. Bulgaria also actively participated in the Euro-Mediterranean Workshop on Disaster Reduction at School, held in October 2007.

Within the framework of regional cooperation, and in collaboration with the Bulgarian national authority and the DPPI SEE, UNISDR organized in June 2008 a seminar on Awareness/Education of Civil Population and Schools on Disaster Management with the aim of providing knowledge on disaster management to schools and public services, and community education to middle managers from national and local disaster management authorities.
Hazards and disasters overview

Croatia’s diverse terrain, with flat plains, rolling hills, densely-wooded mountains and rocky coastlines, is vulnerable to a number of natural hazards. Floods, earthquakes, extreme temperatures, wildfires and wind storms are all present, although EM-DAT shows (Table 7) that during 1996–2007 floods accounted for the major share of disaster events, followed by wildfires. Three separate periods of extreme temperatures caused the greatest number of deaths of any hazard, killing 833 people.

In the 10-year period 1992–2002 there were three major transport accidents, in which 107 people died.

Analysis of the economic losses shows that the country is highly vulnerable to droughts and drought-related hazards. Floods and earthquakes have affected a relatively larger number of people, but economic losses have not been reported in the EM-DAT database. Droughts and extreme temperatures caused the highest economic losses, with the drought of February 2003 severely affecting the county of Vukovar-Srijem, causing reported damage of around $330 million.

Croatia has long historic records of major earthquakes which show, after considering their return periods, that there is also a high probability of earthquake occurrence. The country’s seismicity is unevenly distributed, with most of the earthquakes occurring in the coastal area (the Dinarides). Several strong earthquakes of Intensity IX or X on the MCS scale occurred in Croatia before 1900, in the Dubrovnik area. Among eight historical earthquakes of Intensity IX or X (MCS) in the fifteenth, sixteenth and seventeenth centuries, the strongest and most important was the great Dubrovnik earthquake of 1667. The largest recent seismic event, the Ston-Slano earthquakes of 1996, completely destroyed three villages and caused heavy damage in a number of southern Dalmatian cities. It was the largest seismic series in the greater Dubrovnik area since the 1667 earthquake. Even though the country has building codes against seismic risks there is no legal enforcement. Preparedness in this area could be improved.

Croatia is highly vulnerable to floods. In August 2005 a flood affected 250 people in the district of Mediumurje, near the borders with Slovenia and Hungary. The level of the river Mura was over 5 metres and it burst its banks near the village of Podturen, flooding 30 houses and prompting the declaration of a state of emergency in the county of Mediumurje.

Table 7. Croatia: Summary data on disasters caused by natural (1996–2007) and technological hazards (1992–2002), including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>1</td>
<td>5.55</td>
<td>0</td>
<td>0</td>
<td>330,000,000</td>
</tr>
<tr>
<td>Earthquake</td>
<td>1</td>
<td>5.55</td>
<td>0</td>
<td>2,000</td>
<td>0</td>
</tr>
<tr>
<td>Extreme temperature</td>
<td>3</td>
<td>16.67</td>
<td>833</td>
<td>200</td>
<td>240,000,000</td>
</tr>
<tr>
<td>Flood</td>
<td>5</td>
<td>27.78</td>
<td>12</td>
<td>2,050</td>
<td>0</td>
</tr>
<tr>
<td>Wildfire</td>
<td>4</td>
<td>22.23</td>
<td>1</td>
<td>26</td>
<td>37,750,000</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>1</td>
<td>5.55</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transport accident</td>
<td>3</td>
<td>16.67</td>
<td>107</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>100</td>
<td>955</td>
<td>4,301</td>
<td>607,750,000</td>
</tr>
</tbody>
</table>
In terms of economic loss, wildfires are also a significant hazard. The wildfires of August 2000 affected the Split, Metkovik and Slano (Omis) regions, and caused losses of $177.5 million; from 18 to 23 July 2003, wildfires affected the Dubrovnik region, incurring losses of $20 million.

One particular issue that Croatia faces is the negative and large impact that technological hazards have on the country’s economy. With 63 per cent of GDP contributed by the service sector, Croatia is very vulnerable to the effects of technological hazards that include air pollution from metallurgical plants, coastal pollution from industrial and domestic waste, and landmine removal.

**Disaster management structure and legislation**

With the establishment of the Croatian Platform for Disaster Risk Reduction on 9 November 2009, the country took a significant step in making disaster risk reduction both a national and local priority with a strong institutional basis for application. The Platform, which is a permanent forum in the form of an annual conference, was set up at the proposal of the country’s HFA Focal Point, the National Protection and Rescue Directorate.

The aim is to reduce disaster risks already existing or those likely to emerge in the future. It includes the development of the early-warning system by raising public awareness of disaster risks, especially through the education system. The establishment of the Platform is recognition that a multi-sector approach to disaster risk reduction would enable the maximum use of domestic knowledge and capacities, primarily the most competent scientific and educational institutions in Croatia.

Legislation covering disaster management is largely covered by the Protection and Rescue Act, which came into force in 2005. The act largely superseded a number of separate laws and regulations that established the basic goals and operational objectives for organizing civil protection, including the areas of intervention, and the methodology and content of plans relating to protection and rescue.

The law regulates the system of protection and rescue of citizens, goods and property in disasters and major accidents; the management and coordination of protection and rescue activities; and the rights, obligations, specific training and general education of participants in protection and rescue activities. It also regulates the tasks and the structure of protection and rescue authorities; how to alert and warn; and how to organise mobilisation for the purposes of protection and rescue.

The Protection and Rescue Act\(^{20}\) established the National Protection and Rescue Directorate, which is an independent, professional and administrative organization that prepares, plans and manages operational forces and coordinates the operation of all participants in the protection and rescue system.

The Directorate started functioning on 1 January 2005 and is the central-level body with primary responsibility for the coordination of forces. Its basic tasks are as follows: risk assessment and drafting of protection and rescue plans for local and regional self-government; preparation of mandatory guidelines for risk management; monitoring and analyzing the protection and rescue situation and recommending to the Government improvement measures; collecting, analyzing and distributing risk and consequence information through a single communication system; conducting activities related to the 112 system; organizing, training and equipping operational forces; drafting and conducting training programmes; and international cooperation.

Under the present system, the Directorate includes regional offices located in each of the 20 counties and the city district of Zagreb, along with its central body. However, once the decentralization process is complete the regional offices will be assigned to regional administrations. The organisation is divided into the following five sectors: the Sector for the 112 System; the Civil Protection Sector; the Fire-fighting Sector; the Fire-fighting Protection and Rescue School; and the Personnel, Legal and Finance Sector.

The Directorate’s regional offices, namely the County Protection and Rescue Offices, each includes a county 112 centre and a Prevention, Planning and Supervision Department linked to the Civil Protection Sector and the Fire-fighting Sector at local level.

The Sector for the 112 System is responsible for the information flow to all the actors involved in protection and rescue regarding all possible threats and their consequences. The service, which also benefits from the information of Government institutions addressing issues linked to natural and technological hazards, such as that provided by the Meteorological and Hydrological Institute of Croatia, keeps logs on the unfolding emergency events. Warnings are communicated to the public by means of sirens.

The National Protection and Rescue Directorate is planning to focus on more active participation in regional organizations and initiatives, on regional projects for raising the level of readiness, and on carrying out regular exercises. It will also sign bilateral agreements and cooperation protocols, exchange scientific and technical data relevant for disaster protection and cooperate in the development and production of rescue equipment.

**How education is used to promote safety**

The National Protection and Rescue Directorate has developed a National Plan of Action to educate Children on Protection and Rescue, which has been recommended for implementation in kindergartens and elementary schools by the Agency for Education and Development and the Ministry for Science, Education and Sport.

---

\(^{20}\) Other pieces of legislation which established the National Protection and Rescue Directorate are the Law on Organization and Jurisdiction of the Government Administration, and the Decree on the Internal Organization of the National Protection and Rescue Directorate.
This programme has been developed for primary-school children of the 1st and 2nd grades (involving around 95,000 children in 871 schools) and for pre-school children (from a total of 623 kindergartens). The programme has both theoretical and practical components. The theoretical side presents to children scenarios of everyday activities which can reduce risks such as starting a fire. This includes examples of positive behaviour at home, in schools and at kindergartens and introduces children to the procedures involved in calling the emergency services. Children are also informed about floods and earthquakes, on what causes them, what dangers they pose, as well as on proper modes of behaviour during and after their occurrence. The training includes an evacuation exercise involving the whole class from the school or kindergarten. Relevant educational material has been developed as well as part of the programme.

Selected national and international partners involved in disaster risk reduction

National organizations

- In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction include the Department of Geophysics, Faculty of Sciences, University of Zagreb.

United Nations and other international organizations

- UNICEF is currently partway through its 2007–2011 Country Programme, which has the overall strategic intent of improving the promotion, protection and fulfillment of child rights through tackling the interrelated issues of disparities, social exclusion and violence against children. In Croatia, the UNICEF field office has been transformed into a self-funded entity and, as such, programme goals are specific and there are no direct activities addressing disaster risk reduction.

During the previous period, the Croatian Government endorsed the new National Plan of Action for Child Rights and Interests 2006–2012. It represents a comprehensive set of measures to improve child rights fulfillment and protection, with special reference to the issues raised in the concluding observations of the Committee on the Rights of the Child World Fit for Children outcome document and other international and national commitments to children.

Although it was recognized that Croatia is moving in the right direction, there is still room for improvement. There is a need for better parenting care, reduction of institutionalization and violence, more rigorous and systematic child rights monitoring, as well as targeted measures to make public services socially efficient and backed up by appropriate and targeted resources allocated for disadvantaged children.

The major achievement during this period was the transformation of UNICEF’s presence in Croatia from a regular UNICEF field office into a self-funded entity.

The 2007–2011 Country Programme is consistent with the UNDP programme cycle and with the national development plan. Although Croatia has not completed a Common Country Assessment / UN Development Assistance Framework (CCA/UNDAF), the intended programme strategy and anticipated results have been coordinated with relevant United Nations agencies, including the World Bank. In the education sector, continuation of work on violence in schools and support to the development of alternatives to residential institutions for vulnerable children is to be assured.

UNICEF will continue to work under the overall coordination of the Ministry of Foreign Affairs and European Integrations. Key partners from the Government include the Ministry of Health and Social Welfare; the Ministry of Science, Education and Sports; the Ministry of Family, Veteran’s Affairs and Intergenerational Solidarity; the Institute for Schooling; the Ombudsman for Children; the Office for Human Rights; and the State Bureau for Statistics. From civil society, the main partners will be professional associations and parents’ associations, as well as NGOs directly dealing with violence against children.

The particular strength of the UNICEF presence in Croatia is its strong partnership with the private sector and mass media, which will continue as a major driving force for change.

- Croatia has officially appointed an HFA Focal Point (Annex 3) as a step in its implementation and pursuit of HFA objectives and strategic goals. Furthermore, Croatia has informed UNISDR the establishment of its National Platform for Disaster Risk Reduction in November 2009.

Within the framework of regional cooperation, and in collaboration with the Croatian national authority, the United Kingdom’s Bournemouth University and the DPPI SEE, UNISDR held two events in 2008: a specialized training, which aimed to provide middle managers and practitioners with a familiarization of the planning process and exchange of best practices in drawing emergency response plans; and a regional disaster management course for senior disaster management experts to train in and practice disaster response with an aim of strengthening cooperation among all participants in protection and rescue activities.

Moreover, Croatia in collaboration with UNISDR, WB, CADRI and DPPI SEE organized in September 2009 the first SEE regional workshop on National Platforms establishment and capacity building. The workshop was also supported by GFDRR within the framework of SEEDRMAP.
Hazards and disasters overview

Georgia lies in a region with moderate to very high seismic hazard\(^{22}\). Earthquakes have affected large numbers of people and caused significant economic loss over the past 20 years; the most devastating were the earthquakes of 1991 and 2002. Georgia is also vulnerable to natural hazards including floods, droughts, mud flows, debris flows, landslides, avalanches, hail and wind storms. In the mountainous areas, floods, mud flows, landslides and avalanches are frequent, often triggered by strong rainfall accompanied by rapid snow melt. Large floods devastate the lowland plains. In many areas soil and vegetation are degraded due to overuse and, together with deforestation, this increases the erosion hazard. EM-DAT shows (Table 8) that during 1991–2006, floods accounted for the major share of disaster events, followed by earthquakes.

There were nine technological disasters reported by EM-DAT during 1990–2000, out of which eight were major transport accidents.

Analysis of disaster data shows that Georgia is severely affected by earthquakes. An earthquake in the Tbilisi region on 25 April 2002 killed 7 people, affected over 19,000 others and caused an economic loss of $350 million. A magnitude 7 earthquake in the Racha-Imereti region on 29 April 1991 killed 100 people, affected 100,000 others and caused an economic loss of $10 million. This was followed by a magnitude 6.5 earthquake on 15 June 1991 in the Dzhava-Tskhinvali region, which killed 8 people and affected 3,740 others.

Floods are also very frequent in Georgia. The February 1987 flood in the Tbilisi region alone killed 110 people, affected 36,000 others and caused an economic loss of $546 million. In 1997, the floods in the Tbilisi-Gori-Kvemo-Kartli region killed 7 people, affected 500 others and incurred a reported economic loss of $29.5 million. The only reported drought was in the Kakheti-Kvemo-Kartli region in 2000, which affected almost 700,000 people and caused an economic loss of $200 million.

Man-made hazards are various. There are numerous chemical hazards from pipelines and chemical plants and ruins, as well as water pollution, etc. There is also a radiation hazard originating from the nuclear plant at Metsamor, Armenia. This plant is considered dangerous by the IAEA because of its location in an earthquake zone and its type.

---

\(^{21}\) Georgia has been included in this report as a former member of the Commonwealth of Independent States, even though the country officially withdrew its membership on 18 August 2009.


---

Table 8. Georgia: Summary data on disasters caused by natural (1991–2006) and technological hazards (1990–2000), including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>1</td>
<td>4.55</td>
<td>0</td>
<td>696,000</td>
<td>200,000,000</td>
</tr>
<tr>
<td>Earthquake</td>
<td>3</td>
<td>13.63</td>
<td>15</td>
<td>22,906</td>
<td>350,000,000</td>
</tr>
<tr>
<td>Flood</td>
<td>8</td>
<td>36.36</td>
<td>9</td>
<td>3,990</td>
<td>33,856,000</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>1</td>
<td>4.55</td>
<td>0</td>
<td>900</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>8</td>
<td>36.36</td>
<td>429</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>1</td>
<td>4.55</td>
<td>15</td>
<td>45</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100</td>
<td>468</td>
<td>723,911</td>
<td>583,856,000</td>
</tr>
</tbody>
</table>
Disaster management structure and legislation

Although there is vast experience in responding to a variety of disasters in Georgia, the state of preparedness is limited when faced with large-scale disasters. Coordination of strategic planning for preparedness and disaster risk reduction could be enhanced through consultative and active engagement of key stakeholders.

In January 2005, the Emergency Situation and Civil Safety Service (ESCSS) was established as a department of the Ministry of Interior Affairs, thus succeeding the dissolved Department of Emergency Situations and Civil Defence. In December 2005, the ESCSS was merged with the Fire Department to form the Emergency Management Department (EMD). The Department is a structural subsection of the Ministry of Internal Affairs, which within its competence coordinates prevention of emergency situations and takes action to “mitigate or eliminate” their consequences.

One of the Department’s main tasks is preparedness of the population and officials on how to behave during an emergency situation. The Tbilisi Rescue Base of the EMD has systems in place for systematic theoretical and practical training of rescuers. The EMD’s competences include the harmonization of curricula of educational institutions for participation in emergency situations.

Laws governing emergencies and civil defence do not yet clearly lay down what percentage of the State budget will be allocated in support of disaster preparedness, mitigation, response and recovery. The major document providing guidelines on mitigation and avoidance of the impacts of emergencies at all levels is the Law on Protection of the Population and Territories in Cases of Emergency, which was adopted in 2007. Within its framework, the National Natural and Technogeneous Emergency Response Plan (hereinafter, National Response Plan), as a cross- and multi-sectoral document, has been developed. The National Response Plan presents the measures that the management bodies of separate ministries and legal officials should take to mitigate or eliminate the impacts of emergencies.

The Governmental Commission for Management of Cases of Emergency is a deliberative body which coordinates a common system of prevention of emergencies and the mitigation or avoidance of their impacts. Its working body is the Emergency Management Department of the Ministry of Internal Affairs.

The Ministry of Education and Science is one of the signatories of the National Response Plan.

How education is used to promote safety

In a most recent development, the Ministry of Education and Science of Georgia plans to review and update the National School Curriculum and related teacher training programmes that aim to incorporate disaster risk reduction as part of the civic and environment education programmes. A similar initiative – geared towards inclusion of preparedness for a disaster into the education system in Georgia – has also been recently launched by the Ministry of Interior (the Emergency Management Department) in collaboration with the Ministry of Education and Science.

Selected national and international partners involved in disaster risk reduction

National organizations

United Nations and other international organizations

- The Council of Europe EUROPA Major Hazards Agreement has developed a specific hazard mapping programme for the Southern Caucasus to be used by authorities as an early-warning tool. Within the framework of the GIS Mapping of Integrated Major Hazards in the Southern Caucasus programme, an international workshop titled From Hazards to Risks – Comparative Analysis of Assessment Techniques in the South Caucasus Region was held in Tbilisi in 2007.

One of the workshop conclusions and recommendations was that although children are among the most vulnerable people in a disastrous event they can nevertheless perceive very quickly the rules which should be followed in order to reduce the risks associated with the emergency. As such, schools are in the best position to impart knowledge about hazard awareness and encourage a culture of risk reduction. Clearly, protecting children during disasters envisages the two inseparable priorities of disaster risk education, and safe school buildings and amenities. An investment in school-level risk education can save many lives in critical situations; this is a message to national authorities from the United Nations and many other international organizations.

- The Disaster Management Team (DMT) in Georgia was functional under the leadership of the United Nations Resident Representative until the end of 2006. In 2007, the DMT was replaced by a United Nations Contingency Planning Focal Points Group. The UNDP Disaster Risk Reduction Advisor coordinates this group and its interaction with the United Nations Country Team (UNCT). On behalf of the UNCT, the Contingency Planning Focal Points Group manages the practical planning process by ensuring that agency and cluster plans are in line with the overall planning framework. It is responsible for the periodic updating and testing of the contingency plan as well as capacity building and information sharing with international and national stakeholders.

The Georgian government, United Nations, various international organizations and donor countries have decided to combine their efforts to build sustainable national disaster management capacities, with UNDP
in the leading role. Three projects have been developed and implemented: the National Disaster Management Capacity Building Project (GEO/99/012); Pilot Rehabilitation Activities for the Tbilisi Earthquake; and Drought Relief.

A United Nations Disaster Assessment and Coordination (UNDAC) team visited Georgia in June 2005. The mission found that Georgia’s institutional disaster management capacities were limited in terms of disaster prevention, mitigation, preparedness and response. The system lacked the human, financial and material resources as well as an overarching crisis management legislation to respond effectively to disasters. UNDAC recommended creating a permanent political and policy-making body and a permanent operational entity within the existing institutional framework for disaster management.

The UNCT Contingency Planning Focal Points Group produced a revised UNCT Contingency Plan in September 2009. The revised Contingency Plan is outlining immediate response tasks for the UNCT based on a multi-hazard risk analysis, thus replacing previous draft United Nations plans for the country based on different separate risk analysis and response scenarios. However, due to continued outbreaks of viral influenza, and the specific public and animal health issues in preparedness and response, the UNCT Pandemic Influenza Plan (2006) remains in force as a stand-alone plan.

- Until 2001, Swiss support for disaster risk reduction in the Southern Caucasus was marginal. However, following the Fribourg Conference it was decided to focus on Georgia as a regional hub and, since 2002, SDC has supported the Tbilisi Rescue Base of the Department of Emergency Situations and Civil Defence (now the Emergency Management Department), under the Ministry of Interior Affairs of Georgia.

- UNICEF has worked in Georgia since 1993. The UNICEF 2006–2010 Country Programme focuses on early childhood care and development; child protection, advocacy and social monitoring for children’s rights; and contributes to the achievement of the Millennium Development Goals and the ongoing national social reform process in the area of child care, health and education.

The increased focus on policy development and reforms achieved good results in the area of education. An Education Sector Strategy and Action Plan (2007–2011) was developed by the Ministry of Education and Science, with support from UNICEF and the World Bank. The advocacy work and technical assistance provided resulted in the successful inclusion of pre-school education, integration of minorities, inclusive education and early childhood development. The Strategy has been developed as a requirement for accessing Fast Track Initiative (FTI) catalytic funds and will be officially endorsed to guide Government and partners on priority funding gaps. This has been the only experience so far close to a sector-wide approach. The document includes a budgeted action plan and represents the planning framework for Government and donors. Though Georgia will not be a recipient of FTI funds, the framework developed and the partnership established is supporting the Government by helping to guide its vision and priorities.

Although disaster risk reduction is not at present included in the country programme document as a separate topic, within its framework UNICEF programme activities are aiming to ensure increased access to life saving interventions and improved maternal, newborn and child health care through supply assistance and capacity building interventions for children and women in conflict-affected zones, as well as access to life skills education, including HIV/STIs, in child-friendly learning environments for school-age children in conflict zones. In addition, emergency preparedness and response are the cross-cutting elements of the country programme. This is reflected in the Emergency Response and Preparedness Plan that the UNICEF country office updated in May 2009 as well as in the UNCT Contingency Plan developed with sister United Nations agencies and endorsed by UNCT in October 2009.

UNICEF has continued to be a key player in the UN Interagency Communication Group. The campaign has also targeted school children to educate them on the importance of timely vaccination and to have them serve as “personal sellers” of the message in their homes. Another communication intervention supported was related to avian influenza. It became clear that general awareness of the population about avian influenza was very high, but the knowledge on specific preventive measures was poor. Consequently, two-day special school lessons were supported in all schools across Georgia, including the Abkhazia conflict area. The event, entitled “What we have to know to prevent avian influenza”, was led by the Ministry of Education and Science and the National Curriculum and Assessment Centre with the support of UNICEF. In order to reach more children with messages focusing on personal hygiene norms, UNICEF organized special drama lessons on avian influenza for children living in rural areas of Georgia. ‘Edutainment’ performances in eight areas considered at high risk showed how to prevent the spread of the disease. The project featured 40 puppet shows for about 4,000 children and 20 theatre performances for 2,000 young people. School calendars, posters, magazines and bookmarks with messages on avian influenza prevention were printed and distributed to children during the school event and drama lessons.

Within the framework of the UNCT Focal Points Group for Contingency Planning, lead by the UNDP
Disaster Risk Reduction Advisor, as well as within the UNDP-established DRR think-tank for Georgia (an informal consultancy group gathering representatives of Government, international organizations and civil society) UNICEF is actively involved in activities related to strengthening the disaster risk reduction capacities of Georgia. At present the activities are focused on updating and reviewing the existing National Emergency Response Plan as well as formulation of an intended Disaster Risk Reduction Plan for Georgia.

• Georgia has officially appointed an HFA Focal Point (Annex 3) as a first step in its implementation and pursuit of HFA objectives and strategic goals.
Hazards and disasters overview

The sheer diversity of the natural and geological conditions of Kazakhstan mean that almost its entire territory is subject to most of the known natural hazards; wind storms, landslides and mudslides, floods, epidemics, extreme temperatures, earthquakes and wildfires are all present.

Kazakhstan lies in a region with low to very high seismic hazard\(^{23}\). The Tien-Shan and Altai mountains lie in a very high seismic hazard region which is home to 6 million people (more than one third of the total population) and more than 40 per cent of the nation’s industrial capacity. Historically, Kazakhstan has experienced highly-damaging earthquakes, which experts suggest tend to occur every 80 to 100 years. The last highly damaging period of seismic activities was 1885–1911, when several large earthquakes struck at Verneskoie (1887), Chilik (1889) and Keminskoye (1911). During these earthquakes, the city of Almaty was almost flattened.

The more recent magnitude 5.4 earthquake in Zhambyl province in May 2003 killed 3 people and affected over 43,000 others, bringing devastation to housing and social infrastructure\(^{24}\).

EM-DAT shows (Table 9) that during 1993–2005, floods accounted for the major share of disaster events, followed by epidemics and extreme temperatures. In the plains, spring floods fed by rain and snowmelt occur and mountainous regions suffer mud flows triggered by rainfall or breaches of glacial lakes, although the largest mud flows are those triggered by earthquakes\(^{25}\). Recent flood events include the June 1993 flood in the Embinskyi-Kzylkoginskyi region, which killed 10 people, affected 30,000 others and caused an economic loss of $36.5 million. The more recent March 2005 flood in the Shiyesly-Syr Dariya region affected 25,000 people and caused an economic loss of $7.6 million.

---


<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>1</td>
<td>4.76</td>
<td>3</td>
<td>36,626</td>
<td>0</td>
</tr>
<tr>
<td>Epidemic</td>
<td>3</td>
<td>14.29</td>
<td>7</td>
<td>873</td>
<td>0</td>
</tr>
<tr>
<td>Extreme Temperature</td>
<td>2</td>
<td>9.52</td>
<td>3</td>
<td>600,012</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>4</td>
<td>19.05</td>
<td>10</td>
<td>61,168</td>
<td>45,694,000</td>
</tr>
<tr>
<td>Slide</td>
<td>1</td>
<td>4.76</td>
<td>48</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wildfire</td>
<td>1</td>
<td>4.76</td>
<td>0</td>
<td>8,000</td>
<td>0</td>
</tr>
<tr>
<td>Wind storm</td>
<td>1</td>
<td>4.76</td>
<td>112</td>
<td>0</td>
<td>3,000,000</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>1</td>
<td>4.76</td>
<td>37</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>2</td>
<td>9.52</td>
<td>64</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>5</td>
<td>23.82</td>
<td>85</td>
<td>198</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>100</td>
<td>369</td>
<td>706,882</td>
<td>48,694,000</td>
</tr>
</tbody>
</table>

---


Landslides also pose a significant hazard. The March 2004 landslide in Talgar district reportedly killed 48 people. Kazakhstan suffered from various epidemic hazards. In December 1998, 7 people were killed and 593 made ill by bacterial infection, while from 1999–2000, 280 people were infected by typhus.

Technological disasters kill the highest numbers of people. The eight technology-related disasters in the period 1994–2006 killed a total of 186 people. No economic loss figures are available.

Disaster management structure and legislation

The protection of Kazakhstan’s national interests against the negative consequences of disasters is under the special control of the country’s President and is one of the key priorities of State policy and its long-term Development Strategy until 2030. The long-term direction for national disaster management is provided by the Presidential Decree “On measures aimed to prevent disasters in the territory of the Republic”. In the Government Program of the Republic of Kazakhstan for 2010–2012, disaster reduction is included as one of its important targets.

The Ministry for Emergency Situations (MES) is the principal organization at central level with responsibility for response activities during large emergencies and disasters. The MES is responsible for the general management of the State system regarding disaster prevention and mitigation. It coordinates prevention measures, controls industrial technical safety, supervises the national fire service and serves as the coordinating body for civil defence in Kazakhstan.

The Comprehensive Kazakhstan Natural Disaster Preparedness Plan (formulated with the assistance of UNDP) serves as a guide for central and local government in implementing disaster reduction measures. Furthermore, the MES developed – and the Government approved in 2005—the “Concept of prevention and mitigation of natural and technological disasters and improvement of the State management system in this field”, which determines the long-term directions of the civil protection system and updates the civil defence system to meet the increased present-day requirements.

The MES emergency forces number over 24,000 personnel and include military civil defence units and rescue units such as fire-fighters, air-rescue forces, mine-rescuers, mud flow rescuers and gas-rescue services. Numerous structural disaster prevention and mitigation projects and activities have been undertaken with an aim to reduce the physical vulnerability to natural and technological hazards.

Other legislation in the realm of disaster risk reduction includes presidential decrees on measures aimed to prevent disasters in the Republic’s territory.

How education is used to promote safety

Education on the subject of safe behaviour during emergencies is provided in schools through the subjects “military training” and “basics of life safety”, and through activities such as specific campaigns and civil defence days.

The civil defence programme assumes cognitive activities and the formation of “psychological preparedness and strength of will”. The “basics of life safety course” is intended to develop among pupils a conscious attitude to issues of personal safety and the safety of others in emergency situations.

To further develop the risk reduction message among young people a professional development school is preparing teacher-practitioners at institutions for supplementary education to work with children on safe behaviour in emergency situations throughout their training. The school provides teachers with additional knowledge of new forms and technologies in their work with children and on the formation of practical abilities.

Selected national and international partners involved in disaster risk reduction

National organizations

- In 2003–2005 the NGO Man and Element participated in the development and implementation of the international project “Central Asia Seismic Safety Initiative”. As part of the project, guidelines were developed for hospitals and school principals and a non-structural mitigation (NSM) brochure was produced. During the project implementation, 414 trainings and workshops were held involving over 12,200 participants, while 22,550 students from 21 schools attended trainings. Books titled Basics of Seismology and Seismic Safety, Earthquakes: protection and safety measures and Almaty City Seismic History were produced.

Man and Element also took part in the “Local Risk Management in Earthquake Zones of Kazakhstan” project. One of the project goals was the provision of training for local populations to give them the knowledge and skills necessary for efficient mitigation of the “consequences of acts of God”. Presentations on NSM were developed along with presentations for three levels of schooling: elementary, secondary and high school. Children were presented with the topics “How to behave during an earthquake?” and “What can be done during an earthquake?.

United Nations and other international organizations

- The UNDP project “Local Risk Management in Earthquake Zones of Kazakhstan” aims to strengthen the capacities of local communities to participate in

early warning and preparedness for earthquakes; to equip them with the knowledge and skills required for the effective mitigation of the affects of natural disasters; to raise the level of awareness of the local population, decision-makers and public; and to promote access to information for civil society on disaster response and decision-making. One of the project objectives is to increase the potential of the local population – in particular on disaster response – by means of training and education, and the development of movies, cartoons and computer games for children.

For the implementation of this project cooperation has been established with the following organizations: MES, Red Crescent Society of Kazakhstan, Ministry of Health (UNICEF Project Health and Life Skills Programme), UNICEF United Nations Development Fund for Women (UNIFEM), UNISDR, United Nations Office for the Coordination of Humanitarian Affairs (OCHA), ADRC, and the Global Environment Facility’s Small Grants Program GEF SGP. Expected outputs, among others, are to build safe behaviour skills in case of emergency situations among children of the 5th to 8th and 9th to 10th grades, and develop training modules, exercise books and methodological sources for teachers.

- In 2009, UNICEF actively implemented a project on supporting disaster risk reduction among vulnerable communities in Kazakhstan, under Disaster Preparedness ECHO V (DIPECHO V). The project target groups were local managers from education and emergency sectors, teachers and children from the 500 selected schools. The project had the following outcomes:
  - Over 70 national and local managers of education and emergency sectors were trained on the HFA and disaster risk reduction in education.
  - Recommendations were developed and submitted to both Ministries (Education and Emergency Situations) on how to improve the education component within the existing system of prevention and “liquidation” of emergency situations.
  - Booklets for school children and methodological guidelines for teachers (covering the following hazards: earthquakes, flooding, landslides and mudflows, and fires) were developed and printed.
  - Over 2,500 teachers and over 50,000 school children were trained on disaster risk reduction in education.

The overall goal of the UNICEF 2005–2009 Country Programme was to support the Government in realizing the rights of all children to survival, development, protection and participation and the creation of an enabling environment to ensure strengthened accountabilities for children. Its aim was to focus on national policies, legal frameworks and budgetary re-allocations to improve access to and use of quality basic social services, and to improve child protection. It also targeted enhanced community, family and young people’s participation in decision-making processes impacting their lives.

So far advocacy by UNICEF and other partners has led to the establishment of the National Coordination Group on the Convention on the Rights of the Child, under the Ministry of Education, and to the beginning of reform of the child welfare system. It has also led to an education initiative aimed at improving the quality of education through interactive “child-friendly” and gender-sensitive teaching, which was introduced in five pilot areas. The focus for education is on improving quality through reviewing the curriculum to ensure that it is gender-sensitive, non-discriminatory and participatory.

UNICEF has cooperated with UNISDR to jointly conduct sensitization of national and local partners on the HFA and disaster risk reduction in education. This was done at the regional, national and sub-national levels.

- Kazakhstan has officially appointed an HFA Focal Point (Annex 3) as a step in its implementation and pursuit of HFA objectives and strategic goals. Furthermore, Kazakhstan has informed UNISDR about the existence of an officially-designated National Platform: the Ministry of Emergency Situations.

Kazakhstan hosted the Asian Conference on Disaster Reduction, in June 2007. In addition, Kazakhstan actively participated at the Asia-Pacific Regional Workshop on School Education and Disaster Risk Reduction, in October 2007, as well as at the Community-Based Disaster Risk Management Workshop, based on the HFA, held in December 2007.
Kosovo (as defined by the United Nations Security Council Resolution 1244) declared independence only in 2008 and there is a lack of retrospective country-specific risk-related data available in the EM-DAT database. Consequently, the combined data for Serbia and Montenegro is presented in Table 10, below.


<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>1</td>
<td>3.85</td>
<td>1</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Epidemic</td>
<td>2</td>
<td>7.69</td>
<td>0</td>
<td>869</td>
<td>0</td>
</tr>
<tr>
<td>Extreme Temperature</td>
<td>2</td>
<td>7.69</td>
<td>6</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>9</td>
<td>34.61</td>
<td>14</td>
<td>125,398</td>
<td>0</td>
</tr>
<tr>
<td>Wildfire</td>
<td>1</td>
<td>3.85</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>1</td>
<td>3.85</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>7</td>
<td>26.92</td>
<td>132</td>
<td>368</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>2</td>
<td>7.69</td>
<td>39</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>1</td>
<td>3.85</td>
<td>0</td>
<td>307</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>26</strong></td>
<td><strong>100</strong></td>
<td><strong>192</strong></td>
<td><strong>127,154</strong></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>
Hazards and disasters overview

Disasters caused by natural hazards have been frequent and varied occurrences in Kyrgyzstan. The country is vulnerable to a wide range of disasters, including earthquakes, floods, landslides, mud flows, avalanches, floods, extreme temperatures, epidemics and wind storms. Overgrazing and deforestation of steep mountain slopes have increased the occurrence of mud flows and avalanches, which occasionally have swallowed entire villages. EM-DAT shows (Table 11) that during 1992–2007, slides accounted for the major share of disaster events, followed by floods and earthquakes.

Kyrgyzstan lies in a region with high to very high seismic hazard. Between 1992 and 2007, earthquakes affected the greatest number of people (over 150,000) and caused the largest economic losses ($163 million). An earthquake of magnitude 7.3 struck the Dshalal-Abad region on 19 August 1992 killing 54 people, affecting a further 86,800 and incurring a reported economic loss of $130 million. It was the second major earthquake to hit Kyrgyzstan that year. Earlier, on 15 May 1992, a magnitude 6.6 earthquake in the Burgandi-Nookat region killed 4 people, affected 50,000 others and caused an economic loss of $31 million.

More recently, on 5 October 2008, a powerful magnitude 6.6 earthquake hit the south-east of Kyrgyzstan, near its borders with China. The earthquake struck the two districts (rayons) of Alai and Chonalai and severely damaged the village of Nura, killing 74 people (including 43 children) and injuring a further 157. An estimated 90 per cent of the village infrastructure was destroyed and more than 850 people were left homeless.

Landslide hazards are also significant. Approximately 5,000 potential landslide sites have been identified, out of which 3,500 are in the southern part of country. In an average year, landslides kill dozens of people and damage


<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>4</td>
<td>16.00</td>
<td>58</td>
<td>150,086</td>
<td>163,000,000</td>
</tr>
<tr>
<td>Epidemic</td>
<td>2</td>
<td>8.00</td>
<td>22</td>
<td>794</td>
<td>0</td>
</tr>
<tr>
<td>Extreme Temperature</td>
<td>1</td>
<td>4.00</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>3</td>
<td>12.00</td>
<td>4</td>
<td>10,623</td>
<td>5,260,000</td>
</tr>
<tr>
<td>Slide</td>
<td>7</td>
<td>28.00</td>
<td>249</td>
<td>59,811</td>
<td>37,500,000</td>
</tr>
<tr>
<td>Wind storm</td>
<td>1</td>
<td>4.00</td>
<td>4</td>
<td>9,075</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>4</td>
<td>16.00</td>
<td>88</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>1</td>
<td>4.00</td>
<td>4</td>
<td>600</td>
<td>8,400,000</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>2</td>
<td>8.00</td>
<td>21</td>
<td>600</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>100.00</td>
<td>461</td>
<td>231,606</td>
<td>214,160,000</td>
</tr>
</tbody>
</table>

or destroy 700 houses\(^2\). On 14 April 1994, a major landslide in the Osh Jalal-Abad region killed 111 people, affected 58,500 others and caused an economic loss of $36 million. Earlier, in March 1994, 51 people were killed by a landslide in the Uzgen region. Meanwhile, in April 2003, a landslide in the district of Uzgen killed 38 people and affected 211 others, while in April 2004 two separate landslides in the district of Alay and the Kara-Sogot region killed 38 people.

Mud flows and floods also cause significant damage. Floods are initiated by heavy rains, snowmelt and breaches of natural dams. There are more than 8,500 glaciers in Kyrgyzstan, encompassing an area of 8,000 square kilometres. Some 200 out of more than 1,000 high mountain lakes are identified as dangerous\(^3\).

Kyrgyzstan is also at risk from a number of technological hazards. From 1995 to 2004, there were four major transport accidents, one major industrial accident and two major miscellaneous accidents, including dam collapse, classified as disasters. These events killed a total of 113 people and affected a further 1,217. But in addition to the above-mentioned technological hazards, Kyrgyzstan is also at high risk from the hazard posed by industrial and nuclear dumps left over from the Soviet era. The atomic industry in the former USSR was developed in the 1940s and 1950s and during this period the first uranium and rare-earth ore mining was launched in Central Asia. Many tailing dumps were built directly on the flood plains of rivers or landslide zones, which means that the contents of these dumps could potentially end in rivers, causing a region-wide disaster.

**Disaster management structure and legislation**

The Government of the Kyrgyz Republic has set the integration of disaster risk reduction into national legislation, strategies and programmes as a strategic goal. It aims to embrace all sectors of society in the programmes and strategies, including central and local government structures, the rapidly-developing private sector and communities.

To achieve this aim, the executive branch is working to ensure implementation of the strategic documents across society. This includes the interaction of research institutions, civil society organizations, municipal structures and local governments to build up the resilience of the population to disasters and increase the level of awareness and information in the area of disaster risk reduction. Elements of disaster reduction are being introduced into the formal education system and at community level. Central to this process is the Ministry of Emergency Situations (MES), which has the principal responsibility for developing a unified State policy for the prevention, mitigation and response to disasters caused by natural hazards, as well as for coordinating the activities between other ministries. The MES is an independent institutional structure responsible for working out measures for the prevention of emergencies, the protection of people and national property, and for increasing the stability of “economic objects” in the event of a disaster.

The MES also has major responsibilities over the personnel and equipment of other government services in emergencies. The Ministry has specialized civil defence units, which consist of public agencies and institutions (militia, fire brigade, medical services, etc.), which are enlisted to accomplish special tasks during emergencies. At the oblast (regional) and local levels, the MES operates through its local units and local state administrations.

The Centre for Emergency Management and Coordination at the MES collects, analyses, processes and disseminates data related to disaster management, thereby serving as a tool for the communication of disaster information and the preparation of disaster forecasts that are used in government decision-making.

The strengthening of readiness to emergency situations and effective response in Kyrgyzstan are implemented by reforming the governmental administration system in emergency situations and creating new rescue divisions.


**How education is used to promote safety**

Since 2006 specialists have been educated at the Department of Protection in Emergency Situations as part of the Government’s policy of establishing legal responsibilities for the management of the natural environment, including the forecasting and prevention of emergency situations.

The MES, along with international governmental and non-governmental organizations, conducts seminars in pilot regions of the republic to educate local communities at risk of emergency situations.

With the assistance of the Asian Disaster Reduction Centre, the MES developed and published in 2006 a complex set of educational and training materials for employees of local governments and the general population. The materials are distributed to all the local governments of Kyrgyzstan. The Ministry also conducts continual education for the employees of central and local government administrations in a special division of the MES, and

---


periodically publishes information booklets and brochures regarding hazards.

Furthermore, in 2007 the MES developed an advanced training plan which targets preparedness training at five separate levels: “objective, local, territorial, regional and republican”, with the purpose of providing an education programme suitable for all sections of society about the risks associated with the country’s various hazards and how to mitigate their consequences. Such MES trainings are implemented according to the requests of interested structures and organizations.

However, although certain mechanisms are being put into place to develop a culture of safety in Kyrgyzstan, more needs to be done to bring this message to children. To make further gains in this area, it will be necessary to introduce into school curricula specific trainings on life safety. On this basis, children will learn the necessary skills and behaviour appropriate to dealing with emergency situations.

**Selected national and international partners involved in disaster risk reduction**

**National organizations**

- In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction include Act Central Asia, which is an NGO consortium for Central Asia that works with around 50 partners and implementing programmes in Tajikistan, Kyrgyzstan and Kazakhstan. The consortium, which opened in 2002 and has a regional head office in Tajikistan, has as its goal the preparation of communities to face hazards and vulnerabilities in order to ensure safe life and sustainable livelihoods by minimizing the impact of disasters caused by natural and technological hazards. Act Central Asia’s objectives are to increase the awareness of the community and other key stakeholders of the threats and vulnerabilities they face; to enhance the capacities of communities and key stakeholders in identifying and analyzing threats, vulnerabilities and disasters; to initiate and sustain community-based participatory disaster mitigation and preparedness pilot programmes (based on a livelihood framework for disaster risk reduction); and to document, advocate and disseminate lessons learned in the development of disaster risk reduction in the region.

Since it started operations, the consortium has achieved the following: the integration of development programmes and disaster risk reduction activities (based on the self-help group work of the local NGOs Shoola and Mehr-Shavkat, in Kyrgyzstan); an MoU between disaster risk reduction partners in Tajikistan; close cooperation with REACT and the NGO Youth Group on Protection of Environment, in Tajikistan); a resource centre disseminating disaster risk reduction-related information (the NGO Youth Group on Protection of Environment, in Tajikistan); professional training for rescue teams (the NGO Zumrad, in Tajikistan); the establishment of schools disaster teams (“Shoola”, in Kyrgyzstan, information on which has been included in the ISDR publication *Building Disaster Resilient Communities*); and the mobilization of all key stakeholders – including communities, governments and partners – in all disaster risk reduction activities.

Future activities are aimed at linking disaster risk reduction with livelihood approaches (for disaster resilient assets and resources); working with the governing structures; advocacy and capacity building; and research on climate change adaptation.

**United Nations and other international organizations**

- As a first step in the establishment of a national coordinating body – including international and national NGOs, governmental organizations and international agencies involved in disaster risk reduction – an Inter-Ministerial Commission to “prevent and liquidate emergency situations” was established in March 2006. The Commission was comprised of governmental agencies and was chaired by the Prime Minister, with the Minister of Emergency Situations as Deputy Chair.

A Joint Project Document between the Government of the Kyrgyz Republic and the United Nations, the Swiss Agency of Development and Cooperation, and the Red Crescent Society of Kyrgyzstan (RCSK) was signed on 28 November 2007. The purpose of the joint project, which was signed between UNDP Kyrgyzstan as an administrative coordinator and the Inter-Ministerial Commission, was to improve the country’s response coordination capacity to disasters caused by natural and technological hazards.

Among other activities, a Disaster Response Coordination Unit was established within the Inter-Ministerial Commission, taking into account existing structures and capacities developed under the framework of other projects which were either already implemented or were under implementation, such as the World Bank Disaster Hazard Mitigation Project 2004–2010. As part of this project, a Crisis Management Centre, based at the Ministry of Emergency Situations, has been established and fully equipped, and additional stationary and mobile disaster management centres should be established throughout the country.

Furthermore, as part of the second component – Disaster Preparedness and Monitoring – a programme of capacity building is strengthening the ability of administrations at various levels to better fulfil their duties and functions, create better awareness and

be better prepared in case of disasters. The activities include preparation of regulations and a National Management and Response Plan, as well as training and awareness programmes.

SDC, in cooperation with the Central Asian Institute of Applied Geosciences (CAIAG), has been developing an MoU with the Ministry of Education to introduce earthquake awareness into the education curriculum. Lectures on environmental awareness have been held in high schools and safety of life has been presented as a subject at universities in Kyrgyzstan.

- The UNICEF 2005–2011 Country Programme is focusing on the priority areas of mother and child health and nutrition; early-childhood development and education; protection of children from violence, exploitation, neglect and abuse; social policy; “immunisation plus”; and fighting HIV/AIDS. In relation to education, it is expected that all primary- and secondary-level children in the selected schools of four provinces will gain an education that is based on a reformed curricula and child-centred teaching/learning methodology.

It should be noted that UNICEF has not focused extensively on disaster risk reduction issues in Kyrgyzstan, although its 2010–2011 Rolling Work Plan included promoting resilience and safe behaviour among children through mainstreaming disaster risk reduction into formal and non-formal education. Furthermore, as part of the United Nations Country Team UNICEF took part in the rapid assessment following the 2006 earthquake.

Although UNICEF has not cooperated directly with other United Nations agencies on the subject of disaster risk reduction, the organization nevertheless plays an active part in REACT. As well as the cluster on water, nutrition, and sanitation and hygiene, UNICEF – together with Save the Children – leads the education cluster.

- In principle it is the United Nations disaster reduction adviser from the United Nations Resident Coordinator Unit (i.e. UNDP) who has been viewed as the guide in disaster risk reduction-related issues. In this role, and taking into account that the UNDP mandate is disaster risk reduction and disaster management but not response, the organization has developed and implemented public awareness and education activities such as the life skills module “learning by doing”, the “exhibition on wheels”, the training of rural rescue teams, and the training of teachers for open-air lessons.

- Kyrgyzstan has officially appointed an HFA Focal Point (Annex 3) as a step in its implementation and pursuit of HFA objectives and strategic goals. Kyrgyzstan actively participated in the Asian Conference on Disaster Reduction, held in June 2007. In addition, Kyrgyzstan hosted the workshop on Community-Based Disaster Risk Management Workshop, based on the HFA, in December 2007.
Hazards and disasters overview

The former Yugoslav Republic of Macedonia lies in a seismically active region that has been the site of destructive earthquakes in the past, most recently in 1963 when Skopje was heavily damaged by a major earthquake that killed over 1,000 people and caused extensive damage to the city. Skopje is situated in the most mobile part of the seismically-active Vardar zone. The whole country is located in the Mediterranean seismic belt.

Historically, earthquakes of magnitudes 6.0–7.8 in 10 seismic zones have been experienced throughout the country, with the strongest occurring in the seismic zones of Pehcevo-Kresna (magnitude 7.8, in 1904) and Valandovo-Dojran (magnitude 6.7, in 1931). A magnitude 5.2 earthquake in 1994 affected about 250,000 people.

There were also three major transport accidents reported during 1993–2007, which claimed the lives of 208 people.

Disaster management structure and legislation

Although the concept of disaster management in the former Yugoslav Republic of Macedonia has been largely interpreted in terms of protection and rescue, the Government gave political impetus to the development of a multi-stakeholder approach to disaster risk reduction and disaster management when it declared an official National Platform on 21 April 2009.

Table 12. The former Yugoslav Republic of Macedonia: Summary data on disasters caused by natural (1993–2007) and technological hazards (1993–2001), including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>1</td>
<td>5.55</td>
<td>0</td>
<td>10,000</td>
<td>0</td>
</tr>
<tr>
<td>Epidemic</td>
<td>1</td>
<td>5.55</td>
<td>0</td>
<td>200</td>
<td>0</td>
</tr>
<tr>
<td>Extreme Temperature</td>
<td>3</td>
<td>16.67</td>
<td>30</td>
<td>202</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>7</td>
<td>38.89</td>
<td>2</td>
<td>111,400</td>
<td>353,600,000</td>
</tr>
<tr>
<td>Wildfire</td>
<td>2</td>
<td>11.12</td>
<td>1</td>
<td>1,000,000</td>
<td>13,563,000</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>1</td>
<td>5.55</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>3</td>
<td>16.67</td>
<td>208</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
<td>100</td>
<td>242</td>
<td>1,121,826</td>
<td>367,163,000</td>
</tr>
</tbody>
</table>

The former Yugoslav Republic of Macedonia is also vulnerable to natural hazards including floods, epidemics, forest and urban fires, extreme temperatures, droughts, wind storms and landslides. In terms of number of events and amount of economic loss, the country was most vulnerable to floods in the period 1993–2007, with seven separate flood disasters causing damage estimated at over $350 million.

Historic data prior to that available in EM-DAT shows that the country has had two major floods in the last 50 years – in 1962 and 1979 – with an estimated aggregate loss of over 7 per cent of GDP\[32\]. This same data shows that Skopje is exposed to flooding from three rivers: the Upper Vardar, Treska and Lepenec. The flooding is typically caused by intense rainfall and melting snow.

The principal goal of the National Platform is emergency management through the effective and efficient use of available resources and capacities; as an instrument for the reduction of risk factors; identifying, assessing and monitoring risks; building a culture of safety; and strengthening disaster preparedness at all levels.

The aim is to ensure an integrated, efficient and effective approach to disaster risk reduction through prevention, early warning and management and mitigation of disaster threats and post-disaster consequences.

The Crisis Management Center (CMC) holds the strategic position within the crisis management system and provides the National Platform for stakeholders’ coordination, and technical and administrative support. It is the governmental agency in charge of coordination of emergency management activities. This includes inter-departmental and international cooperation and consultations for the purpose of crisis management. Furthermore, the Centre is in charge of preparing and updating a unified assessment of the risks and threats to the security of the former Yugoslav Republic of Macedonia, and proposing measures and activities to resolve them.

The CMC has established 35 regional crisis management centres in order to monitor situations, exchange information and data, make and prepare assessments, and inform and broadcast alerts to the population. The Centre also has responsibility for issuing timely information and early warning.

The National Platform is developed through 21 specialized platforms covering specific risks and threats, ranging from wildfires and epidemics, through droughts and floods, to earthquakes and CBRN contamination. The particular platforms will enable institutional synergy and integration of available resources, knowledge and know-how of national and local authorities, the NGO sector, the business and academic community, and civil society.

The following stakeholders are part of the National Platform: ministries and independent governmental agencies and bodies; inspectorates within state institutions; independent regulatory bodies; municipalities; academic community; national laboratory network; education and training sector; research sector (including expertise); business community; and religious communities.

Various ministries and governmental agencies are engaged on a national and local level. These include the Ministries of Agriculture, Forestry and Water Management; Environment and Physical Planning; Health; Transport and Communications; Economy; IT Society; Culture; Education and Science; Labour and Social Policy; Justice. The National Platform also includes the following independent governmental agencies: Radiation Security Directorate and the National Cadastre Agency.

The CMC and the National Platform in general provide full coverage of disaster risk reduction activities at the local level. In this respect, a municipal network has been started aimed at developing and strengthening cooperation at local level towards effective prevention, early warning, crisis management, protection and rescue of people and goods, and mitigation. For this purpose, cooperation agreements with all 84 municipalities and the capital city of Skopje have been signed.

In terms of protection and rescue, the Law on Protection and Rescue indicates how responsibilities are divided between the participants in activities, including the State, local authorities, private companies, and public enterprises, facilities and services. The law regulates the division of responsibilities in accord with the provisions in the Local Self-Government Law which devolve obligations of protection and rescue to municipalities.

The law also determines the responsibilities of the Protection and Rescue Directorate, as an independent State authority, in the conduct of protection and rescue activities. The Directorate, which was established in May 2005, has the task of coordinating the civil protection sectors.

At central level, the Directorate establishes the main headquarters to manage national protection and rescue activities; the Directorate director is commander of these headquarters. Rapid response teams, established within the Directorate, are a mainstay of the protection and rescue forces and specialize in various fields.

Key activities are focused on implementing the legal framework of the former Yugoslav Republic of Macedonia as it is harmonized with EU legislation; the ongoing process of destroying unexploded ordnance and other deadly devices; implementation of protection measures against floods; and intensifying and promoting international cooperation.

The second piece of legislation covering the civil emergency management function is the Law on Crisis Management, which governs the response to emergencies in terms of organisation and functioning; decision-making and resource use; communication, coordination and cooperation; planning and financing; and an assessment of the security risks to the country.

The different actors involved in the crisis management system include the State administrative bodies and authorities (the Assembly, President and Government), the armed forces, the protection and rescue forces, and bodies of municipalities and the city of Skopje.

In a crisis situation, a Steering Committee, Assessment Group and Crisis Management Center are established at national level. The Steering Committee is composed of the Ministers for Interior, Health, Transport and Communications, Defence, Foreign Affairs, and the Head of the Assessment Group. If necessary, depending on the crisis situation, other heads of relevant State administrative bodies can also be included in the work of the Steering Committee.

The Assessment Group is a governmental body that performs constant assessment of the risks and dangers to na-
tional security and proposes measures and activities for their prevention, early warning and management. The Group delivers its analyses, recommendations and conclusions to the Steering Committee.

**How education is used to promote safety**

A number of public training projects have been developed targeting primary- and secondary-level pupils through the Ministry of Education and Science. As far back as 1997/98 the project “Let us be Acquainted with Natural Catastrophes” was developed for pupils aged between 7 and 10. More recently, the project “International Cooperation and Connection of Schools in South Eastern Europe through the Internet” was realized in 9 high schools in the former Yugoslav Republic of Macedonia, which were connected to 10 schools from each of the 10 countries of South Eastern Europe. The goal of the project was to develop common themes in the sphere of prevention and protection against catastrophes caused by natural or technological hazards.

Furthermore, the elementary school curricula include some content and activities in the domain of risk prevention and protection (taught as “risk prevention culture”). The project has been designed for and incorporated into the curricula for fifth- to eighth-grade students (aged 10 to 14). The message is delivered through the regular teaching process in subjects including technical education, geography, physics, chemistry, biology, and physical and health care education.

At high-school level, students aged 14 to 18 studying the revised curricula complete a 36-hour module on “Peace, Defence and Protection”. It is a non-curricula optional activity through which the students acquire the knowledge, skills and capacity necessary for the “safety and protection” of themselves and others. In the second grade of vocational schools there is an obligatory subject entitled “Defence and Protection”, which teaches students in two-hour weekly lectures a similar message regarding safety and protection.

The CMC is setting up a national crisis management educational and training network. This will include universities, vocational schools and other educational institutions such as the Military Academy and police training facilities (by planning to include crisis management modules in their existing curricula). The Centre is developing a concept for a virtual Crisis Management Academy, employing the existing educational facilities nationwide.

At graduate and post-graduate level, the institutional framework already exists for the development of methods, techniques and standards, as well as for the training of professionals to master and doctorate levels, in the reduction of seismic and flooding risks. The institutions are the Institute of Earthquake Engineering and Engineering Seismology, IZIIS-Skopje, and the Seismological Observatory, Faculty of Natural Sciences and Mathematics – both under the University Ss. Cyril and Methodius, Skopje; and the Republic Hydro-meteorological Institute. The Institute organizes master-level courses in the fields of earthquake engineering, engineering seismology, and planning for integrated disaster risk reduction.

To provide a multi-disciplinary approach to the disaster risk reduction process, the CMC and Ss. Cyril and Methodius University have signed an agreement for the establishment of a Disaster Management Center of Excellence, and its development has already begun. The Centre of Excellence will be in charge of scientific and research projects and activities in the following fields: epidemiology; animal medicine; agriculture and forestry; bio-hazards; environmental hazards, forest fires and protection of environment; climate change and extreme weather conditions; earthquakes, floods and geo-hazards; industrial and technical/technological hazards; nuclear hazards; telecommunication and IT systems safety; energy and power plant security; and water management.

**Selected national and international partners involved in disaster risk reduction**

**National Organizations**

- In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction includes the Red Cross Society of the former Yugoslav Republic of Macedonia, which is establishing an emergency response unit in compliance with IFRC strategy and standard operating procedures. Furthermore, the Red Cross has concluded an MoU with the Ministry of Education in order to introduce disaster risk reduction issues into schools. As part of the initiative, selected teachers are being educated on how to deal with disasters before they occur, during their occurrence, and their consequences. Once they are equipped with this knowledge, the teachers then share it with other teachers and pupils.

**United Nations and other international organizations**

- In response to the severe damage caused by the unprecedented number of forest fires during the summer of 2007, UNDP – in partnership with the United Nations Environment Programme (UNEP), UNICEF and the Food and Agriculture Organization (FAO) – provided technical assistance through its project Supporting the Damage and Threat Assessment of the Recent Heat Wave and Subsequent Forest Fires to the National Crisis Management Center to conduct a forest fire impact assessment in order to support the country’s early recovery process. The assessment report revealed the environmental damage of various forest fires and their socio-economic impact, and highlighted different opportunities for improvement of the disaster management system. The report recommended a number of interventions for early recovery and prevention. The following major areas were identified to be strengthened:
overall disaster coordination and planning; the multi-sectoral approach to prevention, response and recovery; technical hazard monitoring (early warning) and impact evaluation; local resilience; and public awareness- and preparedness-raising. The project aimed to implement these recommendations in consultation with various national and international stakeholders to ensure the country’s successful recovery and prevention of forest fires and other types of disasters caused by natural hazards.

- UNICEF has developed life skills-based education curricula for primary schools and is now finalizing the development of teacher training manuals. Following endorsement by the Ministry of Education, the curricula are now applicable in all schools. The UNICEF Country Programme 2005–2009 aimed to improve both access to and the quality/relevance of the formal education system. The programme represented a direct contribution to the Millennium Development Goal of achieving universal primary education and was based on two broad strategies: to advocate for child-friendly policies, quality and standards of services in health and education on a national level; and to focus geographically on poor, rural and minority communities to address disparity and social exclusion. Along with the development of new education curricula and teacher training programmes discussed above, expected results are child-friendly school standards; improved access to education to ensure that all children go to school, stay in school and gain knowledge that is useful to them; and the development of an Area-Based Social Development (ABSD) programme.

- The former Yugoslav Republic of Macedonia has appointed an HFA Focal Point as a step in its implementation and pursuit of HFA objectives and strategic goals. Furthermore, the former Yugoslav Republic of Macedonia has informed UNISDR about the existence of an officially-designated National Platform: the Crisis Management Center. During the summer of 2007, and within the framework of SEEDRMI, direct communication was established between the national authorities of the former Yugoslav Republic of Macedonia and UNISDR. In addition, the former Yugoslav Republic of Macedonia actively participated in the Euro-Mediterranean Workshop on Disaster Reduction at School, held in October 2007.

- Other international partners include the European Center on Vulnerability of Industrial and Lifelines Systems (ECILS), and the UN Office of the Resident Coordinator.
Hazards and disasters overview

Moldova was most vulnerable to flooding during the period covered by EM-DAT (1994–2006), with five separate events killing a total of 57 people, affecting a further 35,950 and causing economic losses of over $360 million. The next most damaging disasters were wind storms, with two events causing damage estimated at $31.6 million and affecting over 2.6 million people. OCHA reports that the windstorm and frost of November 2000 caused damage estimated at $20.8 million.

The country is also vulnerable to natural hazards including droughts, epidemics, extreme temperatures, landslides and frosts. Additionally, historical records show that the country is vulnerable to earthquakes, although there were no significant seismic events during the period 1994–2006 covered in the data summary in Table 13, below.

Moldova is also prone to droughts, with events in 1990, 1992, 2000 and 2003 each lasting for an entire growing season of up to nine months. The 2000 drought was severe and crippled Moldovan agriculture in the spring and summer of that year, affecting about 2.6 million people. The UNDP reports that the proportion of overall agricultural losses in the affected areas was between 70 per cent and 90 per cent.

Historic earthquake records report a severe earthquake of magnitude 7.3 in Chisinau in 1940. Moldova is in close proximity to the Vrancea seismic zone in Romania. The United States Geological Survey (USGS) reports a recent earthquake of magnitude 2.9 in the Ukraine-Romania-Moldova border region, on 15 February 2005.

There were no technology-related disasters recorded in EM-DAT for Moldova during 1994–2006, but the country does have a number of technological hazards. These include industrial accidents, pollution and nuclear contamination from neighbouring countries. In 1983 a dam containing a tailings reservoir burst at the Stebnik potassium plant releasing a large amount of salt solution into the Dniester River near Nikolaev. The environmental damage took nearly two years to clear.

Disaster management structure and legislation

There is a multitude of Moldovan governmental agencies responsible for hazard management and disaster risk reduction. The agencies responsible for disaster risk reduction are coordinated through the Republic Commission for Emergency Situations, chaired by the Prime Minister, with participation at ministerial level from appropriate bodies.

The key governmental body for prevention, monitoring, early warning and response coordination in the case of a disaster is the Civil Protection and Emergency Situations


<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>1</td>
<td>10.00</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Epidemic</td>
<td>1</td>
<td>10.00</td>
<td>0</td>
<td>1,647</td>
<td>0</td>
</tr>
<tr>
<td>Extreme temp.</td>
<td>1</td>
<td>10.00</td>
<td>13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>5</td>
<td>50.00</td>
<td>57</td>
<td>35,957</td>
<td>362,584,000</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>2</td>
<td>20.00</td>
<td>3</td>
<td>2,625,580</td>
<td>31,600,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10</strong></td>
<td><strong>100</strong></td>
<td><strong>75</strong></td>
<td><strong>2,663,184</strong></td>
<td><strong>394,184,000</strong></td>
</tr>
</tbody>
</table>
Service (CPESS) of the Ministry of Internal Affairs, which prior to 5 April 2007 was referred to as the Department for Emergency Situations. The main tasks of the Service are as follows: protection of the population and property through prevention and response; civil emergency planning; search and rescue operations; issuing of warnings and information; maintenance and use of protective means; risk and capacity assessment; education and training; preparedness; and mitigation of disaster consequences and rehabilitation.

Civil emergency management in Moldova is regulated by two acts: the Law on Civil Protection and the Law on Defence against Fires.

The Law on Civil Protection defines the basic principles for the organisation of civil defence at all levels, and establishes its tasks and the legal framework that public authorities, institutions, private enterprises, organisations and citizens have to operate within. When the law was introduced, the Department of Civil Protection and Emergency Situations, as it was then known, was under the Ministry of Defence. But in 1997 the Department was expanded to include the Department of Fire Fighters, and in June 2005 the combined Department for Emergency Situations was transferred to the jurisdiction of the Ministry of Internal Affairs.

The Law on Defence against Fires defines the legal, economic and social framework to ensure fire safety and fire protection in Moldova, and regulates relations in the field of combating fires.

Key forthcoming activities include the harmonization of the legal framework with the EU; creation of a Disaster Operations Centre, in order to assist the CPESS with coordination of all other government organisations in times of disaster; implementation of a GIS system in civil emergency management; and further implementation of the Government of Moldova and NATO Partnership for Peace (PIP) Individual Partnership Action Plan (IPAP).

The CPESS has been created within the overall framework of ongoing IPAP security sector reform.

### How education is used to promote safety

#### Selected national and international partners involved in disaster risk reduction

**National Organizations**

- In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction include the State Hydro-meteorological Service; and the Institute for Geophysics and Geology, of the Moldova Academy of Sciences.

#### United Nations and other international organizations

- Recent history, including the preparation of a contingency plan against avian flu, demonstrated that the Moldovan institutional and operational framework would benefit from capacity building in order for it to more efficiently tackle the challenges it faces. In response to these challenges, three United Nations agencies – UNICEF, UNDP and the United Nations Population Fund (UNFPA) – in cooperation with the national partners developed a joint project with the goal to support local counterparts in ensuring that human well-being is assured in whatever emergency situations develop. An assessment and project development was made under the joint programme “Reinforcing the Capacity of the Republic of Moldova in Emergency Preparedness and Emergency Response”, to which UNICEF Moldova was the leading agency in 2007. However, there have been no activities carried out or planned in the area of disaster risk reduction focused on education.

- UNICEF established a viable partnership with the Government of Moldova to reduce the risks of an epidemic through education and training during a project on avian influenza prevention and response. The UNICEF communications section managed the public information and communication component of the project, the benefits of which included an improvement in risk communication during crisis situations among high-level officials, health specialists and health managers. The project included the establishment of a public hotline number and a communication strategy developed to support the avian influenza response activities of the Ministry of Health.

The previous UNICEF 2002–2007 Country Programme focused on maternal and child health; child protection; and young people’s health, development and participation. Due to the understanding that quality of education in Moldova is a bigger problem than education coverage, the Government has decided to undertake significant efforts rehabilitating the school infrastructure, attracting teaching staff (particularly in rural areas), and applying new teaching methods, similar to ones used elsewhere in Europe. UNICEF supported the Ministry of Education and Youth (MEY) in running a basic education baseline study, aimed at assessing the situation in the system from the perspective of child-friendly schools, with specific emphasis on access and quality of education, parents’ and community participation, and families’ role in children’s education.

With UNICEF assistance, an interdisciplinary working group approved at the level of Prime Minister has developed the national concept on inclusive education. New partnerships with UNESCO, UNDP, the World Bank, the MEY, the Ministry of Finance, civil society, and the Institute of Educational Sciences will help

---

33 Civil Protection and Emergency Situations Service was established according to Law No 93 (5 April 2007) ‘On Civil Protection and Emergency Situations Service’.
strengthen the capacity of a newly-established policy unit in the MEY so that the quality of implementation will match the quality of new policies and strategies.

A disaster risk reduction strategy for Moldova was produced jointly by UNICEF and UNDP.

- Moldova has officially appointed an HFA Focal Point (Annex 3) as a first step in its implementation and pursuit of HFA objectives and strategic goals. During the spring of 2007, and within the framework of SEEDRMI, direct communication was established between Moldovan national authorities and UNISDR. Furthermore, Moldova has informed UNISDR of its intentions to establish an official National Platform in the near future.

- Other international partners include the European Centre for Mitigation of Natural Risks.
Hazards and disasters overview

Montenegro became independent only in 2006 and there is a lack of retrospective country-specific risk-related data available in the EM-DAT database. Consequently, the combined data for Serbia and Montenegro is presented in Table 14, although brief additional information available solely for Montenegro from various sources is also presented here.

Montenegro is vulnerable to disasters caused by natural hazards including earthquakes, floods, landslides and forest fires. There are also risks associated with technological hazards, including from mining and other industrial activities.

The best and most fertile land in Montenegro is regularly flooded. The Pazicko polje is vulnerable to flooding and events were reported in 1980 and 2001 in this area. Furthermore, the valley of the River Lim, at the estuary of the River Moraca, and the Zeta plain are also susceptible to floods. Flooding occurs irregularly in other areas as well.

In common with other countries along the Balkan coastline, Montenegro is prone to very high seismic risk. According to data reported by the National Strategy for Emergency Situations, almost 40 per cent of Montenegrin territory is at risk of an expected maximum seismic intensity of magnitude 8 or larger. This affects some 60 per cent of the national population. The country is placed in the middle of an active seismic belt which is frequently affected by catastrophic earthquakes. A devastating earthquake on 15 April 1979 along the coast and wider area of Lake Skadar killed 136 people and caused damage amounting to US$4 billion.

Other natural hazards include flash floods, landslides and rock falls, which often follow heavy rain and can have a critical impact. The country’s complex topography makes such events frequent and potentially very damaging for settlements and public infrastructure, especially the 7,000 km road network, much of which is located in mountainous areas.

Forest fires are even more frequent and widespread, especially in the rural coastline areas and in the central region. Often fires are started through agricultural practices.


<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>1</td>
<td>3.85</td>
<td>1</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Epidemic</td>
<td>2</td>
<td>7.69</td>
<td>0</td>
<td>869</td>
<td>0</td>
</tr>
<tr>
<td>Extreme Temperature</td>
<td>2</td>
<td>7.69</td>
<td>6</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>9</td>
<td>34.61</td>
<td>14</td>
<td>125,398</td>
<td>0</td>
</tr>
<tr>
<td>Wildfire</td>
<td>1</td>
<td>3.85</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>1</td>
<td>3.85</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>7</td>
<td>26.92</td>
<td>132</td>
<td>368</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>2</td>
<td>7.69</td>
<td>39</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>1</td>
<td>3.85</td>
<td>0</td>
<td>307</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>100</td>
<td>192</td>
<td>127,154</td>
<td>0</td>
</tr>
</tbody>
</table>
As well as natural hazards, Montenegro’s ageing industrial facilities and transport infrastructure present major challenges for disaster risk reduction. In January 2006, a train crash killed 45 people, highlighting the inherent problems with the railway system. Major hazards include oil storage facilities on the coastline, and mines and steel factories in the central region.

**Disaster management structure and legislation**

Montenegro has developed a broad framework under the Ministry of Interior and Public Administration for handling emergency situations and civil security through the establishment of the Sector for Emergency Situations and Civil Security. The Sector was established as a unique body to implement mechanisms for civil protection in Montenegro under the terms of regulations introduced by the Government in December 2004 which made the Ministry of Interior and Public Administration responsible for risk management, preparedness and search and rescue in cases of earthquakes, fires and other natural or technological incidents.

The plan was a move to institutionalize disaster management and consisted of three components: an assessment of basic risks, which resulted in the National Strategy for Emergency Situations; the establishment of a service capable of responding to disasters, but focused on prevention; and the development and adoption of the Law on Protection and Rescue, with an aim to regulate the legal framework.

The National Strategy for Emergency Situations can be considered as a foundation document for the structure of civil protection in Montenegro. It analyses all the risks affecting the territory of Montenegro and provides a survey on the capacity of the Montenegrin structures to cope with them. The survey highlights the operational capabilities of Montenegro with reference to the major risks on its territory, emphasizing the importance of constant monitoring of the hazards and the need for an integrated approach to disaster risk reduction.

The Sector for Emergency Situations and Civil Security consists of the following departments and units: the Department for Civil Protection, which identifies and evaluates risks at national and local level; the Department for Risk Assessment, which is responsible for the management of the national database of risks as reported by the National Strategy for Emergency Situations; the Department for Prevention and Inspection, which has jurisdiction over the activities defined by the Law on Protection and Rescue and other regulations related to this area; the Department for Operational Affairs, which is in charge of the coordination of all organisations, companies, and State or local authority institutions in emergencies; the Department for Strategic Policies and Legal Affairs, which defines the guidelines for strategies and programmes, and proposes draft laws relevant to the organisation and the functioning of civil protection and monitors their realization; the 112 Centre, which uses the European emergency number 112 and is a hub for all types of emergency; and the Helicopter Unit, which is responsible for search and rescue operations in the whole of Montenegro.

Ever since its formal establishment, the Sector for Emergency Situations and Civil Security has established active cooperation and collaboration at regional and bilateral level; the most dynamic is cooperation with the Danish Emergency Management Agency in the area of institutional capacity building and disaster preparedness.

**How education is used to promote safety**

There is official recognition that disaster risk reduction and recovery concepts and practices are not adequately treated in the present education programmes, which remain outdated. However, this situation should change now that an institution exists that is competent to manage emergency situations and enhance the modernisation of school programmes in a systematic manner. Indeed, the Sector for Emergency Situations and Civil Security is developing the subject of disaster risk reduction, which will be proposed to be included in the education curriculum for grades 6–9 (age 13–16) from September 2010.

**Selected national and international partners involved in disaster risk reduction**

**National Organizations**

- In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction include the Montenegro Seismological Observatory, and the Hydro-meteorological Institute of Montenegro.

**United Nations and other international organizations**

- Previous UNICEF cooperation with Montenegro was covered under the organisation’s 2005–2009 country programme for Serbia and Montenegro, which focused on the specific areas where the Government needed the greatest support. They were: social policy reform, which was already well under way; system building; improving service delivery and community mobilization; strengthening people’s capacities, especially the poor and excluded; and influencing the quality of services.

A new country programme developed for 2007 to 2009 had the overall goal of ensuring that children, particularly those who live in poverty and are socially excluded, enjoy and exercise their rights. The country programme comprised three components: partnership and social policy reform for children; system and institution building; and community mobilization.

54 From Montenegro: National progress report on the implementation of the Hyogo Framework for Action, June 2009. For more information, see http://www.preventionweb.net/english/countries/europe/mne/
tion. The programme provided technical assistance to relevant public sectors on the following: the development of national guidelines and protocols for integrated early childhood development, nutrition and a long-term immunization plan; policies and protocols for inclusive education and the implementation of a Roma education strategy; the adoption of policies and legislation on HIV/AIDS, addressing mainly prevention among adolescents most at risk and of mother-to-child transmission of HIV, and national policies and strategies related to adolescents’ health and participation; and protocols and special protection measures for children who are victims of violence, abuse and neglect, and comprehensive reform of the juvenile justice system.

The programme emphasised participatory approaches, with a focus on enabling competent networks at national and local levels and authorities and organizations at local level to support poor and excluded groups to organize themselves and to build their capacities to participate in social processes and in the social development of their communities in relation to the local plans of action. This included support for youth networks to further develop peer education programmes.

A recent example of cooperation in the field of disaster risk reduction was the support given to the Ministry of Health during the influenza A (H1N1) ‘swine flu’ outbreak in 2009 when UNICEF produced communication material for a prevention campaign. Other cooperation included the development of United Nations inter-agency contingency plans, also in 2009, on a joint response and preparedness plan in case of a major earthquake, and another on the human influenza pandemic. In addition, a joint training on emergency preparedness and contingency planning was held in the same year for resident United Nations agencies.

- Montenegro has officially appointed an HFA Focal Point (Annex 3) as a first step in its implementation and pursuit of HFA objectives and strategic goals. During the summer of 2007, and within the framework of SEEDRMI, direct communication was established between Montenegrin national authorities and UNISDR.

35 Following a substantial reduction in the number of cases from January 2010 the Ministry of Health had not yet started to produce this material by the time this publication went to print and it was an open question whether or not it would be used by the end of the influenza season.
Hazards and disasters overview

Romania is especially vulnerable to floods and earthquakes, occasionally of catastrophic proportions. The country’s geologic structure and climate promote landslides, which often occur as associated hazards of earthquakes and floods. EM-DAT shows (Table 15) that during 1908–2007, floods accounted for almost 39 per cent of all disaster events, killing a total of 1,670 people, affecting a further over 1.6 million and causing economic losses of almost $2.9 billion.

Floods are primarily generated by rainfall from May to November, by the melting of snow, or by the superposition of the two events during the winter-spring period. They can be widespread and their effects can be catastrophic. In 1970, intense rainfall caused devastating floods on the main rivers in Transylvania; 1,500 localities were affected and 85,000 houses were flooded, 45,000 of which were destroyed or severely damaged.

But in terms of number of deaths and total economic losses, earthquakes are the most dangerous disaster events. Romania lies in the Mediterranean seismic region, part of the south European alpine belt. The country is affected by earthquakes of varying magnitudes and return periods. In the twentieth century two violent earthquakes struck Romania causing tremendous human and material losses. The epicentres of both were situated in the Vrancea region. The second earthquake, in March 1977, is considered one of the most violent seismic events on the continent during the previous century. It had a magnitude of 7.2 and killed 1,570 people, injured 11,300 and caused damage estimated at $2 billion.

Other seismic zones, such as those situated in Banat, in the northwest of Romania, and in the Făgăras mountains, in the Meridional Carpathians, typically are affected by earthquakes of smaller magnitudes.

There were 21 technology-related hazards reported in the period 1938–2006. Although the data shows a long-term decline in the numbers of people affected by technological disasters, there has been a rise in the number of events since the 1990s. Two major transport accidents occurred in 1989 and 1995, while in January 2008 thousands of peo-

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>2</td>
<td>1.93</td>
<td>0</td>
<td>0</td>
<td>500,000,000</td>
</tr>
<tr>
<td>Earthquake</td>
<td>13</td>
<td>12.62</td>
<td>2,630</td>
<td>392,850</td>
<td>2,010,000,000</td>
</tr>
<tr>
<td>Epidemic</td>
<td>3</td>
<td>2.91</td>
<td>0</td>
<td>5,271</td>
<td>0</td>
</tr>
<tr>
<td>Extreme Temperatures</td>
<td>14</td>
<td>13.59</td>
<td>324</td>
<td>2,700</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>40</td>
<td>38.83</td>
<td>1,670</td>
<td>1,606,625</td>
<td>2,871,190,000</td>
</tr>
<tr>
<td>Slide</td>
<td>1</td>
<td>0.97</td>
<td>0</td>
<td>330</td>
<td>0</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>9</td>
<td>8.74</td>
<td>50</td>
<td>8,366</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>13</td>
<td>12.62</td>
<td>552</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>6</td>
<td>5.83</td>
<td>60</td>
<td>102</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>2</td>
<td>1.93</td>
<td>29</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>103</td>
<td>100</td>
<td>5,315</td>
<td>2,016,276</td>
<td>5,381,190,000</td>
</tr>
</tbody>
</table>
people were stranded when the capital’s two main airports were closed due to heavy snowfall. The major risks are posed by nuclear and chemical plants.

**Disaster management structure and legislation**

The Romanian national policy addressing disaster prevention and management is expressed through the work of different administrative authorities, public institutions and specialist bodies with responsibilities, and various legislative documents. The country’s technical and institutional capacity for disaster management and preparedness are in place and it is quickly developing an appreciation of how to address disaster risk reduction issues.

The national authority responsible for multi-sectoral coordination is the National Committee for Emergency Situations, which operates through the General Inspectorate for Emergency Situations (GIES). The Ministry of Interior and Administrative Reform, coordinated by the Prime Minister, manages the National Committee for Emergency Situations. It is the National Committee’s job to coordinate the human, material and financial resources to prevent and manage emergency situations. The system is an integrated framework within which all the support tasks for prevention and management of emergencies are shared among national ministries, central bodies and NGOs.

The General Inspectorate for Emergency Situations was founded in 2004 by merging the Civil Protection Command and the General Inspectorate of Military Fire Corps. The GIES includes a specific department dealing with prevention, a national operations centre and other structures needed to manage emergency situations. On a national level the GIES, through the national operational centre, serves as the Standing Technical Secretariat of the National Committee.

In the event of a disaster, the declaration of an emergency situation represents an exceptional act which allows the application of a series of political, economic and public order measures covering the national territory.

A national report regarding disaster management was developed in 2001. The document assessed the impact, intensity and evolution of the main types of hazards affecting Romania, and identified the country’s vulnerabilities. It examined the human, material and financial resources available for hazard management and assessed which buildings and which infrastructure facilities were most vulnerable.

The report also analysed the governmental and non-governmental structures involved in disaster management and international cooperation in disaster situations, as well as the capacities and challenges in disaster prevention, preparedness and management both at national and regional level. Any gaps or imperative needs were identified.

Legislation covering disaster risk reduction includes the Government Ordinance on Strengthening Existing Buildings, which came into effect in 1994 and led to a set of duties regarding seismic resistance applying to the Ministry of Transport, Constructions and Tourism, along with the owners of public or private buildings.

**How education is used to promote safety**

Special attention is paid to the use of training programmes in schools to encourage an awareness of risk and risk reduction concepts. Analytical training programmes and special materials have been developed by commissions on every type of disaster faced by Romania in a bid to develop a culture of safety. As part of the programmes, theoretical and practical activities regarding behaviour in case of disasters are organised. Activities include scholarly competitions to encourage students to participate.

Universities and other colleges organise training courses in the field of disaster mitigation for members of the public services including fire-fighters, police officers and medics, as well as for architects and other construction workers, and environmental and agricultural workers.

There is detailed attention to risk reduction through preparedness, confirming the commitment to, and relevance of, civil protection in Romania. In all, a total of six specialist universities and seven research institutes in the country contribute to the elaboration of studies, standards and guides in the field of disaster risk reduction. This includes the evaluation of any special hazards on Romanian territory.

---

38. The relevant laws regarding the national policy for disaster management include: G.O. no. 2288/09.12.2004, regarding the repartition of main tasks in the event of emergency situations for ministries, central public authorities and NGOs; G.O. no. 1491/28.09.2004, regarding regulations concerning protection against fire; Civil Protection Law no. 481/08.11.2004; G.O. no. 1490/09.09.2004, regarding regulations concerning the organisation, functioning, task management and endorsement of operative committees and emergency situation centres; G.O. no. 88/2001, concerning the organisation and functioning of emergency situation public services, approved by Law no. 363/2002; Law no. 307/12.07.2006, concerning protection against fire; Civil Protection Law no. 481/08.11.2004; G.O. no. 1490/09.09.2004, regarding regulations concerning the organisation and functioning of the General Inspectorate for Emergency Situations; G.O. no. 1492/2004, regarding regulations concerning the organisation, functioning and attributes of professional emergency services.
39. The universities and institutes include the: Technical University of Civil Engineering, of Bucharest; Technical University, of Timisoara; Technical University ‘Gh. Asachi’, of Iasi; Town-Planning and Architecture University ‘Ion Minuc’, of Bucharest; University ‘Babes Bolyai’, of Cluj-Napoca; Polytechnic University, of Bucharest; and the specialist research and development institutes: Geographical Institute of the Romanian Academy; National Institute for Building Research – INCERC, of Bucharest; National Centre for Seismic Risk Reduction – CNRRS; National Research and Development for Earth Physics Institute, of Bucharest; Studies and Designing Institute for Land Improvement – ISPIF, of Bucharest; Regional Centre for Prevention and Industrial Accidents Management, of Cluj-Napoca; and the Environment Research and Engineering Institute.

---

territory and the identification of the most efficient response procedures.

Of particular note is the research and development programme TESIS (Advanced Technologies and Systems for the Knowledge-based Information Society), financed by the Ministry of Education, Research and Innovation. It includes a project to develop a system for public awareness and education concerning disasters as part of an objective to develop new technologies, platforms and services for ‘e-Government’.

This project has been developed by experts in software for education, economics and environment at the National Institute for Research and Development in Informatics, in cooperation with specialists from the General Inspectorate for Emergency Situations and the Geography Institute.

**Selected national and international partners involved in disaster risk reduction**

**National Organizations**

- The national report regarding disaster management, developed in 2001, included assessments regarding the country’s level of vulnerability to flooding. This involved the participation of a number of specialist institutes, including the Geographical Institute of the Romanian Academy, the National Institute for Building Research and the National Institute for Earth Physics. The institutions established vulnerability levels, taking into account the frequency of floods, existing hydrological networks and topography, as well as social, economic, cultural and environmental factors.

**United Nations and other international organizations**

- UNDP assisted the Romanian Government in the development of a coordination mechanism for environmental rehabilitation and the creation of a generic model that could be applied to a number of geographical areas and types of disaster. The projects were in response to the numerous emergencies in Romania which had an impact on the environment, including the damage caused by polluting industries that were not compliant with existing environmental norms. The projects were the “Environmental Emergency Rehabilitation Coordination Project”, developed in 1999, and the “Emergency Preparedness for Hazardous Waste Spills in the International Inland Waterways of North-West Romania”, developed in 2002.

- As part of World Bank activities in Romania, the Hazard Risk Mitigation & Emergency Preparedness Project was developed and approved in 2004. The overall objective of the project was to assist the Government in reducing the country’s environmental, social and economic vulnerability to disasters caused by natural hazards, and catastrophic mining accidents involving the spillage of pollutants, by strengthening the institutional and technical capacity for disaster management and emergency response. The project aimed to achieve this through the following measures: upgrading communication and information systems; implementing specific risk reduction investments for floods, landslides and earthquakes; improving the safety of selected water-retention dams; and improving, on a pilot basis, the management and safety of tailings dams and waste dump facilities.

- Within the framework of above-mentioned World Bank project, educational material for children related to disaster risk reduction was produced, although mostly focused on preparedness for response. This material was developed as part of a planned public awareness campaign and was complementary to the activities undertaken to introduce disaster risk reduction as a subject in the elementary school curriculum.

- While at present, disaster risk reduction is considered to be an optional subject in years 1–4, the expectations are that disaster risk reduction will become a regular subject for these year groups.

- The UNICEF 2005–2009 Country Programme supported the Government through an important period bridging between pre-accession and accession to the EU and aiming to consolidate key reforms and build capacities in health, education and child protection. In terms of education reforms, the programme included the development of early learning standards for children aged 0–7, in close partnership with the Ministry of Education, Research and Youth (MERY), the National Authority for Child Rights Protection and the Ministry of Public Health. MERY is developing a curriculum for early education (for children aged 0–6) based on the early learning standards. Three annual work plans were implemented under this component, and strategic partnerships were set up with government or inter-governmental bodies including MERY, European Union, World Bank, Council of Europe and Council of Europe Development Bank, Romanian Parliament, Working Group on Early Education, and NGOs including Step-by-Step Centre for Education and Professional Development, Holt Romania, and Our Children.

One activity that was not originally planned for 2007 was UNICEF’s continuing support, in partnership with Habitat for Humanity, for 110 families in distress due to the April 2006 floods. UNICEF assisted mainly through support to local affiliates and development of partnerships with other organizations to build, renovate, and repair homes, apartments and housing units as simple, decent and affordable places to live for these families.

A joint Government of Romania – UNICEF Mid-Term Review for the 2005–2009 Country Programme was carried out to assist in adjusting the programme for
the 2008–2009 period and in contributing to the programme vision for the 2010–2012 period as part of the long-term transitional process of ensuring a sustainable partnership model between Romania and UNICEF.

As a part of its future work plan, UNICEF is continuing with efforts, among other activities, for leveraging resources and guidance on early childhood development. This involves the development of convergent policy frameworks for early childhood development, and for capacity building of national systems to develop, implement, and monitor convergent, evidence-based policies on early childhood development in all sectors and line ministries.

Relations between Romania and UNICEF are entering a new phase. The coming three year period will see a consolidation of efforts to ensure sustainability of reforms under way in child protection, health and education. It will also lead to the evolution of UNICEF’s engagement in the country.

- Romania has officially appointed an HFA Focal Point (Annex 3) as a first step in its implementation and pursuit of HFA objectives and strategic goals. During the spring of 2007, and within the framework of SEEDRMI, direct communication was established between Romanian national authorities and UNISDR. Furthermore, Romania has informed the UNISDR of its intentions to establish an official National Platform in the near future, as well as to join the network established within the context of coordinating efforts among National Platforms at the European level. Romania also actively participated at the Euro-Mediterranean Workshop on Disaster Reduction at School, held in October 2007.
Hazards and disasters overview

By virtue of its tremendous area and diversity of natural conditions, the territory of Russia is subject to the destructive impacts of various geophysical, geological and hydro-meteorological processes, forest fires and communicable diseases. Natural hazards of particular concern include forest fires and other wildfires, which occur on almost 45 per cent of Russian territory. Other natural hazards include floods, earth flows, permafrost over much of Siberia, volcanic activity in the Kuril Islands, and volcanic activity and earthquakes on the Kamchatka peninsula. There is also ongoing destruction of sea shores and the banks of reservoirs and rivers. The threats associated with these natural hazards are significant and the impact they are having on the social and economic development of Russia are increasing.

EM-DAT shows (Table 16) that during 1991–2008, floods accounted for the major share of disaster events, followed by wind storms and wildfires. The 44 flood events killed 543 people, affected a further over $2.1 million and caused an economic loss of over $2.4 billion. Earthquakes killed the largest number of people (2,006), affecting a further over 47,610 others and caused an economic loss of over $131 million. Sixteen disasters caused by extreme temperatures killed 1,920 people, affected over 750,000 others and caused an economic loss of over $1 billion. Meanwhile, 19 wildfires killed 76 people, affected over 100,000 others and caused an economic loss of over $380 million.

There were 141 disasters caused by technological hazards reported over a similar period (1994–2007), of which transport accidents were the most numerous, with a total

Table 16. Russia: Summary data on disasters caused by natural (1993–2006) and technological hazards (1994–2007), including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>3</td>
<td>1.10</td>
<td>0</td>
<td>1,000,000</td>
<td>0</td>
</tr>
<tr>
<td>Earthquake</td>
<td>9</td>
<td>3.31</td>
<td>2,006</td>
<td>47,610</td>
<td>131,520,000</td>
</tr>
<tr>
<td>Epidemic</td>
<td>10</td>
<td>3.68</td>
<td>33</td>
<td>158,246</td>
<td>0</td>
</tr>
<tr>
<td>Extreme Temperature</td>
<td>16</td>
<td>5.88</td>
<td>1,920</td>
<td>757,593</td>
<td>1,000,100,000</td>
</tr>
<tr>
<td>Flood</td>
<td>44</td>
<td>16.18</td>
<td>543</td>
<td>2,112,490</td>
<td>2,433,555,000</td>
</tr>
<tr>
<td>Insect Infestation</td>
<td>1</td>
<td>0.37</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Slide</td>
<td>9</td>
<td>3.31</td>
<td>463</td>
<td>2,558</td>
<td>2,600,000</td>
</tr>
<tr>
<td>Wave/Surge</td>
<td>1</td>
<td>0.37</td>
<td>47</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wild Fire</td>
<td>19</td>
<td>6.98</td>
<td>76</td>
<td>102,403</td>
<td>383,336,000</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>19</td>
<td>6.98</td>
<td>211</td>
<td>21,274</td>
<td>296,050,000</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>69</td>
<td>25.37</td>
<td>2,421</td>
<td>464</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>18</td>
<td>6.62</td>
<td>246</td>
<td>3,628</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>54</td>
<td>19.85</td>
<td>1,393</td>
<td>3,900</td>
<td>11,200,000</td>
</tr>
<tr>
<td>Total</td>
<td>272</td>
<td>100</td>
<td>9,359</td>
<td>4,210,166</td>
<td>4,258,361,000</td>
</tr>
</tbody>
</table>
of 69 events. In all transport accidents were responsible for 2,421 deaths, making them the most deadly of all hazards affecting Russia over this period. Industrial accidents killed 246 people, and miscellaneous accidents killed a further 1,393.

Disaster management structure and legislation

The foundation of the national structure for the coordination and execution of work in the field of disaster risk reduction is the Single State System for the Prevention and Elimination of Emergency Situations, the RSES, which was established in 1992. The RSES is tasked with integrating management bodies, forces and the resources of federal bodies – and those local administrations and organizations authorised to solve problems in the field of protection of the population and territories from emergency situations – to ensure their readiness by developing and realising (economic and legal) standards in this field. This includes a number of non-structural responses to risk reduction including the development and realization of scientific/engineering programmes and population training.

The basic targets of the system are: preventing accidents and disasters caused by natural hazards; reducing the losses and damage from emergency situations; eliminating the adverse consequences of emergency situations through the effective response of rescue operations; and other measures to eliminate the immediate threats to people’s lives and enhance post-event recovery.

RSES management is realized through the Government of the Russian Federation via the Ministry of Emergencies, which is responsible for the control and coordination of the activities of federal bodies in the field of protection of the population and territories.

A Government Commission for the Prevention and Elimination of Emergency Situations and Ensuring Fire Safety has been established. Included in the Commission are heads of ministries and departments, or those deputy heads of ministries and departments who realize control and supervision over the following: the safety of potentially hazardous “economic objects”, dangerous natural hazards or potentially hazardous objects within their jurisdiction, or the forces or means of prevention and avoidance of emergency situations.


How education is used to promote safety

Students of all ages, from primary, through secondary to higher professional levels, receive education on prevention of emergency situations through specific study courses. The courses, which are approved by the Ministry of Education, are part of a programme on “Foundations of life protection science” introduced in 1991 which replaced an earlier military training programme that did not contain the required scope of knowledge for young people in emergency situations. The new programme is taught in all general state schools from the 1st to the 11th grades. It encompasses both theoretical education and practical training on the measures necessary for personal safety during emergencies, including basic first aid and child health, along with military training.

Beginning in 1994, “Life protection science” was also introduced into the curricula of non-state general schools. The main goal of the course is to teach students the knowledge and skills they need to protect the lives and health of people in emergency situations, render help to themselves and others, and take preventive measures to eliminate emergencies. The courses are felt to shape a considerate and responsible attitude to the issue of personal safety and the safety of others. They include the identification and proper assessment of natural hazards and education on how to avoid the risks associated with them.

An educational programme also exists for pre-school children. “Foundations of life safety for preschool children” is run at kindergartens and targets the teaching of appropriate behaviour in a number of potentially hazardous scenarios, including dangerous situations on the street or on public transport; and contact with strangers, dangerous items, animals or poisonous plants. The course is designed to encourage a culture of safety among young children and includes basic environmental awareness and knowledge about health.

With a view to improving the popularity of the “Life protection science” course, among other reasons, the Ministry of Education adopted a proposal from the Tula Combined Study – Methodological Centre on Civil Defence and Emergency Situations, Radiation and Environmental Security to establish two experimental projects in the province of Tula, in Eastern Russia, to encourage safe behaviour and environmental awareness. The “School of Security” project was established with the Children and Youth Association, while the “Island of Security” project was established with the Children and Youth Township. The basic target was to promote a culture of environmental awareness and safe behaviour during emergency situations.

To ensure the efficient functioning and further enhancement of the system of public education on protection in emergency situations, close attention is paid to the development and provision of study materials and the rehabilitation of study centres and test facilities.

On the basis of the Tula Combined Study Centre a faculty was established to train teachers of general education at
primary, secondary and higher vocational levels the subject “Life protection”. Meanwhile, a whole complex of programmes for the training and education of all sections of society were prepared and “Life protection” textbooks published for pupils from the 1st to the 11th grades. Moreover a series of educational aids were prepared for students of higher education, with titles including “Life Security: Security in Emergency Situations”, “Life Security: Economic Mechanisms of Risk Management in Emergency Situations”, “Warning on and Liquidation of Emergency Situations”, and “Foundations of Risk Analysis and Management in Natural and Anthropogenic Spheres”.

**Selected national and international partners involved in disaster risk reduction**

**National Organizations**

United Nations and other international organizations

- The UNICEF 2006–2010 Country Programme supports national priorities described in the National Plan of Action, specifically: protection of children’s health, optimal early childhood development and promotion of healthy lifestyles; provision of quality education; improvement of children’s living standards; and enhancement of the social welfare system’s efficiency for the protection of vulnerable children. State educational expenditure per child has almost halved since 1990. Pre-school enrolment and availability have fallen to an average rate of 58 per cent, and the attendance gap between urban and rural areas is 28 per cent. Completion rates for the basic cycle are declining as are opportunities for vocational education and educational access for poor children living in rural areas. The system of teaching basic life skills, including such important thematic components as HIV/AIDS, substance abuse prevention and reproductive and sexual health issues, is still to be fully tailored to new circumstances. The Government’s recently-initiated education system reform provides further opportunities for integrating needed life skills education into the formal curriculum.

Furthermore, UNICEF will support the Ministry of Education in conceptualizing and testing a social model for giving disabled children access to mainstream education. In the North Caucus, the programme will evolve, conditions permitting, from humanitarian aid to recovery and rehabilitation with a focus on vulnerable children and women. Key components will include education, including peace and tolerance education; child protection, including mine action and assistance to mine survivors; and focusing on integrated youth-oriented services and support.

In addition, UNICEF peace and tolerance education efforts will seek to involve young people, NGOs, educational institutions, media and local governments from North Ossetia-Alania, Kabardino-Balkaria, Ingushetia, Dagestan and Chechnya.

- Other specific activities related to education and disaster risk reduction included cooperation in 2009 between the UNICEF education section and the Ministry of Education of Ingushetia to develop a “life skills education manual” for school children. It was scheduled to be printed in 2010.

- Russia has officially appointed an HFA Focal Point (Annex 3). Furthermore, Russia has designated the Ministry of the Russian Federation for Civil Defence, Emergencies and Disaster Response (EMERCOM) as the National Platform. As per the updated version of the report on Implementing the Hyogo Framework for Action in Europe, EMERCOM has been active in HFA priority area 3: “Use knowledge, innovation and education to build a culture of safety and resilience at all levels”. In addition, Russia actively participated in the Asian Conference on Disaster Reduction, held in June 2007.
Serbia became independent only in 2006 and there is a lack of retrospective country-specific risk-related data available in the EM-DAT database. Consequently, the combined data for Serbia and Montenegro is presented in Table 17, below, although some additional information from secondary sources is also presented in this section.

Serbia is vulnerable to a number of disasters caused by natural hazards, including floods, earthquakes, extreme temperatures, wildfires, epidemics, landslides and wind storms. The country is also vulnerable to disasters caused by technological hazards, which in the 11-year period covered by EM-DAT (1995–2006) killed a total of 171 people, 132 involving transport and 39 involving industrial accidents.

In terms of number of events and total number of people affected floods represented the biggest hazard, with 9 events causing 14 deaths and affecting over 125,000 people. The valleys of larger watercourses, in which the largest settlements and the best farmland, infrastructure and industry are located, are highly prone to floods. Human activity has accelerated soil erosion, increasing the risk of landslides. Most floods are along the river courses of the Sava, Drina, Velika Morava, Juzna Morava and Zapadna Morava; Vojvodina has the highest flooding risk of all. UNDP estimates that over 320,000 people are exposed to the risk of flooding.

Seismic activity in Serbia is strong and frequent, with over 50 per cent of the country vulnerable to earthquakes of magnitude 7 and around 20 per cent vulnerable to events of magnitude 8. Severe earthquakes struck in 1979, 1980 and 1998, the latter event causing an economic loss of more than $400 million.

In terms of other significant hazards, although wildfires are frequent and widespread in Serbia during the summer season the threats they pose are not great. In the period covered there was just one wildfire, which affected 12 people. However, the dangers posed by technological hazards

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>1</td>
<td>3.85</td>
<td>1</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Epidemic</td>
<td>2</td>
<td>7.69</td>
<td>0</td>
<td>869</td>
<td>0</td>
</tr>
<tr>
<td>Extreme Temperature</td>
<td>2</td>
<td>7.69</td>
<td>6</td>
<td>70</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>9</td>
<td>34.61</td>
<td>14</td>
<td>125,398</td>
<td>0</td>
</tr>
<tr>
<td>Wildfire</td>
<td>1</td>
<td>3.85</td>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>1</td>
<td>3.85</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>7</td>
<td>26.92</td>
<td>132</td>
<td>368</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>2</td>
<td>7.69</td>
<td>39</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>1</td>
<td>3.85</td>
<td>0</td>
<td>307</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>100</td>
<td>192</td>
<td>127,154</td>
<td>0</td>
</tr>
</tbody>
</table>

---

are greater. Accidents occurring during the transporta-
tion of toxic and hazardous materials have been reported
in Serbia, while the political situation and conflicts of the
recent past have had a lingering impact on the people and
the environment, and have resulted in the release of toxic
materials.

Disaster management structure
and legislation

Following a series of political transformations over the last
20 years, Serbia is now in the process of building a con-
structive framework towards disaster risk management.
Key to the process is the reorganisation of the Protection
and Rescue Sector of the Ministry of Interior, which deals
with disaster and emergency management.

Disaster management and disaster risk reduction in
Serbia is currently conducted by two main structures: the
Civil Protection Section of the Ministry of Defence and
the aforementioned Protection and Rescue Sector. At
present, there is no legal framework for the coordination
of competences or tasks of the two ministries and, in fact,
significant relationships and coordination have not been
established between them.

This lack of synergy has had a series of negative conse-
quences. Not only has it led to a partial dissipation of the
budget allocated by the State for disaster risk reduction
and disaster management, but it has also led to a lack of
clarity over the identification of responsibilities in emer-
gency events.

Nevertheless, many of the capacity gaps that exist in the
present system are being addressed following the intro-
duction of new legislation designed to more clearly define
roles and responsibilities during emergency events.

The Protection and Rescue Sector prepared the Law on
Emergency Situations, which the Serbian Parliament
passed in December 2009. The act, which was drawn up in
accordance with new European legislation, provides the
legal framework for establishment of an integrated emer-
gency management system. It is intended that this law
will be a platform for strengthening and binding all the
institutions involved in disaster management. It will also
define modalities and mechanisms in planning, prepared-
ess, coordination, response and recovery at national
and sub-national level.

In the field of prevention, the law will define the meth-
odology to be adopted for the prediction of possible risks
of and the protocols to use when an emergency situation
occurs.

It is particularly important for this act to be adopted since
the acts which are currently in force: the Fire Protection
Act; the Explosives, Flammable Liquids and Gases Act;
and the Transport of Hazardous Materials Act, were all
adopted approximately 20 years ago.

As part of the ongoing reforms and in accordance with the
Government Decision of 5 March 2009, the Protection
and Rescue Sector is being reorganised into the Sector
for Emergency Management, the aim being to establish
an integrated emergency management system. The Sector
will be tasked with coordinating the activities of all state
institutions involved in disaster management.

Two new departments, the Department for Risk
Management and the Department for Civil Protection,
will be established within the Sector for Emergency
Management, besides two existing ones (the Department
for Prevention and Department for Fire and Rescue
Units).

Furthermore, there is an ongoing project for implementa-
tion of a single European emergency call number 112.

Other legislation in the realm of disaster risk reduction
includes the Law on Defence, the Law on Water, the
Law on Protection Against Natural Disasters, the Law on
Protection Against Ion Radiation, the Decision on Setting
the Coordination Team for Major Chemical Accidents,
and the Law on Protection at Work.

How education is used to promote safety

There is official recognition that to date there is inade-
quate use of knowledge, innovation and education to
build a culture of safety and resilience in Serbia. This situ-
uation has been compounded by the lack of satisfactory co-
ordination among participants in disaster management.

To address the situation, it is recognised that it is impor-
tant to define school curricula on disaster risk reduction
and recovery concepts for all levels of the education sys-
tem and implement them as soon as possible. There is also
a need to develop research methods and tools.

However, there are individual examples of the use of
knowledge to develop a culture of safety. For instance,
although there is no national strategy for public aware-
ness there are nevertheless single (thematic) instructions
on how the public should behave and respond in case of
emergency situations.

In the area of education, new laws which have been adopt-
ed and promote social inclusion and equity – including
the Basic Law on Education – also define as key principles
child-centred education, school safety and protection of
children from violence, as well as school community coop-
eration and partnership with parents and local communi-
ties. The capacities of teachers and school administrators
were further enhanced to implement these programmes.

41 Much of the information in this section comes from Serbia: National
progress report on the implementation of the Hyogo Framework for
Action, June 2009. See http://www.preventionweb.net/english/
countries/europe/serb/

42 Information in this section is from Serbia: National progress report
on the implementation of the Hyogo Framework for Action, June
2009. See http://www.preventionweb.net/english/countries/
europe/serb/
Selected national and international partners involved in disaster risk reduction

National Organizations

United Nations and other international organizations

- UNICEF is cluster leader in education and is working closely with the MoE, national education institutions and relevant experts to develop a programme for raising awareness and building capacities for inclusion of disaster risk reduction in the child-friendly schools programme.

In 2009, during the 2005–2010 country programme, UNICEF actively participated in the MoE emergency response team for prevention of the spread of influenza A (H1N1) ‘swine flu’. It also included preparation of ‘information, education, communication’ materials for distribution to the affected populations and participation in the UNCT information team for external and media crisis communication.

The overall goal of the UNICEF 2005–2010 Country Programme was to ensure that children, in particular those who live in poverty and exclusion, enjoy and exercise their rights. The country programme was designed to build capacities, create commitment and basic conditions, and support government and civil society in their efforts to progress towards this overall goal. The key results that the country programme aimed to achieve were: an increased percentage of excluded girls to complete gender- and culture-sensitive basic education at the ‘right’ age and gain appropriate knowledge and skills; an increased number of at-risk and institutionalized children to be provided with family-like forms of care; the under-5 mortality rate to be reduced by 50 per cent among excluded vulnerable groups and by one third at the national level; more than 90 per cent of young people to have access to knowledge and services necessary to develop skills to practice healthy life styles; and to increase prevention and successful responses in cases of child abuse, neglect and exploitation.

Within the framework of an earlier UNICEF country programme, a comprehensive analysis of primary education was conducted which was used by the Ministry of Education as a background for education reform. This included the “active learning” methodology, which was brought to 20,000 teachers and used in approximately 60 per cent of primary schools. Achievements at the local level surpassed planned educational outcomes. But although progress in increasing participation of young people was strongly evident at the community level, it fell short of its national-level aspirations.

- Serbia has officially appointed an HFA Focal Point (Annex 3) as a first step in its implementation and pursuit of HFA objectives and strategic goals. During the summer of 2007, and within the framework of SEEDRMI, direct communication was established between Serbian national authorities and UNISDR.
Hazards and disasters overview

Data shows that Slovenia is less vulnerable to natural and technological hazards than its South Eastern European neighbours, but although EM-DAT hazard data for the country is available from only 1995 onwards it is known that the country lies in an active seismic zone and in the past there have been several destructive earthquakes with epicentres either within, or near, its territorial borders. Over 650,000 citizens, or 33 per cent of the country’s population, live in areas at risk of earthquakes of magnitudes VIII and IX on the Mercalli-Cancani-Sieberg (MCS) scale, and each year Slovenia experiences 10 weak-to-moderate shocks. EM-DAT reports that between 1994 and 2006 there were two earthquakes, killing one person and affecting a further 1,306.

Other hazards include floods, which are a threat to more than 300,000 hectares of land, or approximately 15 per cent of the total territory. The regions prone to flooding are home to more than 600,000 people, about 30 per cent of the total population. Landslides threaten approximately 7,000 square km, or about one third of the country’s territory. Approximately 1,400 landslides have been recorded.

Forest fires are the most frequent disaster hazard in Slovenia, affecting mainly the Notranjska karstic region.

In terms of economic loss, wind storms were the most destructive with two events between 1998 and 2007 costing $392 million and killing six people. Drought-related hazards were the second most destructive, causing an economic loss of $80 million over the same period.

The main technological hazards affecting Slovenia are those associated with chemical and other industrial accidents, including nuclear emergencies and other radiological threats.

There is one nuclear power plant in Slovenia, situated on the left bank of the Sava River, some 70km south-east of Ljubljana and 35 km north-west of Zagreb (Croatia). Within a 1,000 km radius there are 50 nuclear power plants; of these, 32 are within 500 km of Slovenia.

Disaster management structure and legislation

The system of protection against disasters caused by natural or technological hazards is based on the obligation of the State and municipalities to prevent and eliminate dangers and to implement prompt measures in the event of an emergency. It is also based on the obligations of commercial companies, institutions and other organizations which, within the scope of their activities, are responsible for implementing emergency measures relating to

---

Table 18. Slovenia: Summary data on disasters caused by natural (1998–2007) and technological hazards, including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>2</td>
<td>28.58</td>
<td>1</td>
<td>1,305</td>
<td>10,000,000</td>
</tr>
<tr>
<td>Extreme Temperature</td>
<td>1</td>
<td>14.28</td>
<td>289</td>
<td>148</td>
<td>80,000,000</td>
</tr>
<tr>
<td>Flood</td>
<td>1</td>
<td>14.28</td>
<td>0</td>
<td>0</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>2</td>
<td>28.58</td>
<td>6</td>
<td>1,050</td>
<td>392,000,000</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>1</td>
<td>14.28</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7</strong></td>
<td><strong>100</strong></td>
<td><strong>296</strong></td>
<td><strong>2,503</strong></td>
<td><strong>487,000,000</strong></td>
</tr>
</tbody>
</table>

---

63 South Eastern Europe Disaster Risk Mitigation and Adaptation Initiative – Risk Assessment for South Eastern Europe, UNISDR, 2008.
the protection and rescue of people and property, and of individuals for the protection of themselves and their properties.

The Resolution on the National Security Strategy of the Republic of Slovenia\textsuperscript{44}, adopted in 2001, is the basis for five-year National Programmes of Protection against Natural and Other Disasters (currently 2008–2013). The Programmes, which are orientated towards prevention, have the aim of reducing the number of accidents and preventing or mitigating their consequences. Annual priorities are defined for each year and are in accordance with the five-year plans.

On the basis of the above, the Doctrine on Protection, Rescue and Relief was adopted. It comprises the common principles and perspectives concerning professional and operational guidance and organisation, and the conduct of protection, rescue and relief efforts in the event of a disaster.

Administrative and specific expert tasks related to protection against disasters are carried out by the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief (a multi-sectoral and coordinating body). The Administration, which is a constituent body of the Ministry of Defence, has 13 regional offices covering designated areas of Slovenia. It is charged with the following tasks:

- the elaboration of proposals for research and development projects relating to protection against disasters;
- elaboration of proposals of the national programme and plan of protection against disasters;
- providing for the organization and operation of the monitoring, notification and warning system;
- elaboration of threat assessments and other technical documents for the planning of protection, rescue and relief, and directing and coordinating measures for the prevention and mitigation of the consequences of disasters;
- monitoring hazards, and issuing early warnings and advice on appropriate actions to deal with them;
- elaboration of national emergency response plans in co-operation with ministries and governmental services;
- organization, equipping and training of national civil protection units and services and other protection, rescue and relief forces, and facilitating the work of the commander of the Civil Protection Headquarters and the national and regional damage assessment committees;
- monitoring and co-ordinating the organization of civil protection and other protection, rescue and relief forces;
- elaboration of programmes as well as organization and delivery of education and training for protection, rescue and relief;
- creation and maintenance of national material reserves to deal with disasters caused by natural and other hazards.

The most important laws governing the system of protection against disasters caused by natural or technological hazards are:

- The Protection Against Natural and Other Disasters Act.
- The Fire Protection Act.
- The Fire Service Act.
- The Slovenian Red Cross Act.
- The Recovery from the Consequences of Natural Disasters Act.
- The Protection against Drowning Act.

**How education is used to promote safety**

Although the reduction of natural hazards is not an obligatory subject in the regular school curricula, every school year the Administration nevertheless prepares an optional informative education and training programme on personal and mutual protection for kindergartens and elementary schools. Among other things, the programme includes evacuation drills.

The Administration operates under the supposition that disaster risk education should be offered to a child as early as possible and, in this context, is engaged in projects including competitions, the publishing of books and the development of didactic games with subjects such as “Earthquake”, “Flood” or “Safety in the mountains” and a computer game “Get smart for children”. The Administration has also contributed to various magazines for children, produced a puppet play and developed special promotional activities.

Furthermore, “Protection and Rescue Days” are held every two years in a different region of Slovenia. The events are opportunities to promote disaster management activities among local populations. The purpose of the events are also to bring together responsible national institutions, professional and voluntary members of rescue services, private companies, NGOs and other experts in the field of protection, rescue and disaster relief to present their activities and/or products to the wider public. As part of the events, a national emergency response exercise, con-

\textsuperscript{44} Official Gazette of the Republic of Slovenia, 56/2001.
ferences and other educational activities are organized for different sections of the population, such as children, adults and experts, etc.

Each year different prevention and preparedness activities are organised in October, which is designated Fire Safety Month. Moreover, every 1 March (Civil Protection Day) on both national and local levels, individuals and organisations are rewarded for their efforts in protection, rescue and relief activities. Celebrations provide opportunities to raise awareness about civil protection activities through the media.

**Selected national and international partners involved in disaster risk reduction**

**United Nations and other international organizations**

- UNICEF has no Mission in Slovenia.

- Slovenia has nominated an HFA Focal Point for disaster risk reduction. Slovenia has also informed the UNISDR of its intentions to establish an official National Platform in the near future.
Hazards and disasters overview

The complicated topography of this mountainous country, its high rainfall levels and large number of glaciers mean that of the many hazards Tajikistan is exposed to floods are the most common. Floods are caused largely by outbursts from mountain lakes, which store enormous volumes of water behind unstable natural barriers. Tajikistan is also vulnerable to natural hazards including earthquakes, mudflows, landslides (mudslides), epidemics, droughts, avalanches, insect infestation and wind storms.

The country has experienced seven major disasters over the last 10 years, including earthquakes, floods, landslides and droughts. Among the countries of Eastern Europe and Central Asia, Tajikistan ranks third in terms of large-scale disasters caused by natural hazards. EM-DAT shows (Table 19) that during 1990–2007, floods accounted for the major share of disaster events, followed by landslides and earthquakes. There were also five technology-related hazards reported in the period 1993–2006.

The most recent major disasters included floods in Khuroson district in 2008, an earthquake in Rasht in 2007, avalanches in January 2006, and floods and heavy snowfall in 2005. Furthermore, at the beginning of 2008 Tajikistan experienced one of the coldest winters in decades as temperatures dipped to -25°C. Coupled with the disruption of electricity and heating supplies, the extreme cold snap resulted in a major national emergency and prompted United Nations agencies and partners to launch a $25 million appeal to respond to the situation.

Disaster management structure and legislation

The Committee of Emergency Situations and Civil Defense (CoES) is the body tasked with protection of the population and territories. It has the following responsibilities: implement a common State policy on disaster prevention and mitigation; implement disaster management programmes; maintain preparedness of disaster management units, communication and warning systems, forces and tools acting in emergency situations, including the as-

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>1</td>
<td>2.04</td>
<td>0</td>
<td>3,000,000</td>
<td>57,000,000</td>
</tr>
<tr>
<td>Earthquake</td>
<td>6</td>
<td>12.24</td>
<td>17</td>
<td>30,157</td>
<td>22,000,000</td>
</tr>
<tr>
<td>Epidemic</td>
<td>4</td>
<td>8.16</td>
<td>171</td>
<td>23,590</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>20</td>
<td>40.82</td>
<td>1,498</td>
<td>820,087</td>
<td>605,990,000</td>
</tr>
<tr>
<td>Insect Infestation</td>
<td>1</td>
<td>2.04</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Slide</td>
<td>10</td>
<td>20.42</td>
<td>361</td>
<td>9,027</td>
<td>65,700,000</td>
</tr>
<tr>
<td>Wind storm</td>
<td>2</td>
<td>4.08</td>
<td>0</td>
<td>2,330</td>
<td>434,000</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>3</td>
<td>6.12</td>
<td>124</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>1</td>
<td>2.04</td>
<td>30</td>
<td>1,600</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>1</td>
<td>2.04</td>
<td>18</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>100</td>
<td>2,219</td>
<td>3,886,814</td>
<td>751,124,000</td>
</tr>
</tbody>
</table>
sessment of the socio-economic impact of emergency situations; implement international cooperation for disaster reduction efforts; and stockpile and deliver relief aid to the affected population.

The CoES is also tasked to protect the population and national territories from the hazards associated with military action such as terrorist threats.

An important step in the improvement of the disaster management system was the establishment of the State Commission for Emergencies in August 2002. This commission has gained the status of the Republican coordinating agency during various emergencies and is established at all levels of the State administration. The Chairman of the State Commission for Emergencies is the President of Tajikistan, while at other levels it is the heads of local authorities (regions, districts, cities and jamoats [municipalities]).

With an aim to contribute to regional cooperation and collaboration, the CoES contributed to the establishment of the Inter-State Council on natural and technological disasters. It was formed in September 1993 by a decision of the heads of governments of CIS states with an aim to develop and implement a coordinated policy regarding disaster prevention and mitigation using the unique experience of CIS states.

Legislation relevant to disaster risk reduction includes: the Decree on the establishment of the Committee for Emergency Situations and Civil Defense; the Law on Civil Defense; the Law on the Protection of the Population and Territories from Natural and Man-made Emergency Situations; the Law on Emergency Rescue Services and the Status of Rescuers; and the Law on the Fund for Mitigation of Emergency Situations.

How education is used to promote safety

The Training and Methodological Centre under the CoES has developed a system of training and tutorials on disaster mitigation management for local governments, decision-makers, regional branches of the Committee involved in disaster management, vulnerable communities, businesses and the general public. In addition, local authorities are establishing information services with the purpose of informing the public about prospective development planning in cities and districts, construction planning of new industrial and civil projects, land reclamation activities and land use in relation to disaster risk reduction.

Within the framework of collaboration and cooperation with international organizations, support has been provided by the UNDP Disaster Risk Management Project (DRMP) and SDC to the Training and Methodological Centre and the commission has been established for revision and improvement of disaster management training programmes for executive officials in central and local government, CoES structures, economic entities, and the public. The new, already-approved core curriculum is overwhelmingly oriented towards disasters caused by natural and technological hazards (of 34 possible themes at the national level, 24 deals exclusively with disasters caused by natural and technological hazards and only 10 with civil defence).

Furthermore, the Government – in cooperation with international partners – has considered including special disaster risk reduction subjects in the educational curriculum and in relevant educational programmes within the school, preschool, secondary, special and higher education systems. This would replace the system which included a separate civil defence training curricula for 2nd, 5th, 6th, 10th and 11th grade school students. Furthermore, some basic disaster preparedness is taught to the 2nd, 5th and 6th grade students during extra-curriculum “educational” hours; in practice these classes are almost always optional, and are left to the discretion of the individual school principals or the local educational authorities. At 10th and 11th grades training is much more formal; it is usually included in the pre-military training but covers essentially civil defence with little emphasis on disaster preparedness and/or response in peace time.

Selected national and international partners involved in disaster risk reduction

National Organizations

United Nations and other international organizations

- Since 2000, the CoES has led a disaster management coordination group known as the Rapid Emergency Assessment and Coordination Team (REACT). REACT comprises over 60 key national and international governmental and non-governmental organizations, including UNICEF. With an objective of rapid assessment and effective response to disasters, REACT has developed an inter-agency plan for preparedness and response.

- Tajikistan is considered by SDC as a pilot country to mainstream disaster risk reduction in development projects, and to build better links between governmental authorities and civil society. Within DIPECHO programme activities in Tajikistan response capacities will be strengthened through local disaster management plans, early-warning systems, disaster preparedness training, radio communication systems and public awareness campaigns.

- In addition, the United Nations in Tajikistan has taken a unified approach to disaster management, combining the mandates of the three United Nations agencies OCHA, UNDP and UNISDR, and has developed the Disaster Risk Management Project. The project was designed to increase public awareness to understand risk, vulnerability and disaster reduction, to enhance commitment from public authorities to implement disaster reduction policies and stimulate interdisciplinary and cross-sectoral partnerships, locally, nationally and regionally.
UNICEF started its activities in Tajikistan in 1994, starting its first country programme of cooperation with the Government in 1995. The focus of the 2005–2009 country programme was on supporting the achievement of the Millennium Development Goals by 2015, with the overall aim to strengthen national, community and family capacities to promote, protect and fulfil the rights of all children and to ensure opportunities to meet their full potentials within the troubled economic environment.

It also supported efforts to establish quality basic education for all, particularly by supporting better school management and better classroom environments and by advocating for participatory approaches to learning that were gender sensitive and child centred. UNICEF supported the MoE in convening the first national conference on preschool education for authorities and teachers of pre-school education. The meeting resulted in a decision to continue work on the development of the national early-learning development standards and strategy as well as the national programme on school preparedness.

UNICEF chairs the education, water and sanitation clusters in emergencies. UNICEF works closely with UNDP DRMP and UNISDR and supported the initiative on school resilience to earthquakes.

Tajikistan has officially appointed an HFA Focal Point (Annex 3) as a step in its implementation and pursuit of HFA objectives and strategic goals. Furthermore, Tajikistan has informed UNISDR about the existence of an officially-designated National Platform: the Ministry of Emergency Situations and Civil Defense. Tajikistan actively participated in the first session of the Global Platform for Disaster Risk Reduction, held in June 2007, in the Asia-Pacific Regional Workshop on School Education and Disaster Risk Reduction, held in October 2007, as well as in the Community-Based Disaster Risk Management Workshop, based on the HFA, held in December 2007. Moreover, the UNISDR regional office covering Central Asia has been located in the capital city, Dushanbe.
Hazards and disasters overview

Turkey is especially vulnerable to earthquakes and the country has been struck by approximately 71 major events in the last century, collectively causing the deaths of 88,538 people and destroying approximately 500,000 homes. An earthquake fault line running across the north of the country from west to east caused a major earthquake in 1999. In addition, studies show there is a high probability that a major earthquake will strike Istanbul in the near future45. Rapid and uncontrolled urbanization has increased the level of vulnerability to earthquakes.

There is a 20 per cent probability that an earthquake will strike Istanbul in the next 10 years.

As per EM-DAT, the country is at risk from almost all kinds of natural hazards, including extreme temperatures, floods, landslides, epidemics, wind storms and wildfires. Furthermore, there have been many disasters caused by technological hazards, especially major traffic accidents. EM-DAT shows (Table 20) that between 1922 and 2004, major traffic accidents accounted for 2,184 deaths, while industrial hazards were responsible for 782 deaths and miscellaneous accidents killed a further 2,458 people.

In terms of natural hazards, between 1903 and 2006 earthquakes accounted for the major share of disaster events and caused the greatest amount of economic loss, followed by floods. The 71 earthquakes affected over 6.8 million people and caused an economic loss of over $27.7 billion, while the 37 floods caused 1,368 deaths, affected over 1.7 million others and caused an economic loss of over $2.6 billion. The number and severity of floods as well as wildfires is increasing, especially in the Mediterranean area where the presence of extended urban sprawl and the exploitation of territory for new infrastructure developments, settlements and industry have exposed a growing number of people to the potentially adverse effects of such events.

In addition, the Black sea region of the country is highly prone to landslides; about 25 per cent of the territory is exposed to landslide hazards.

Table 20. Turkey: Summary data on disasters caused by natural (1903–2006) and technological hazards (1922–2004), including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>71</td>
<td>28.06</td>
<td>88,538</td>
<td>6,874,596</td>
<td>27,752,400,000</td>
</tr>
<tr>
<td>Epidemic</td>
<td>7</td>
<td>3.16</td>
<td>593</td>
<td>204,633</td>
<td>0</td>
</tr>
<tr>
<td>Extreme temperature</td>
<td>7</td>
<td>2.77</td>
<td>100</td>
<td>8,450</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Flood</td>
<td>37</td>
<td>14.23</td>
<td>1,368</td>
<td>1,755,654</td>
<td>2,621,500,000</td>
</tr>
<tr>
<td>Slide</td>
<td>8</td>
<td>3.16</td>
<td>591</td>
<td>2,298</td>
<td>0</td>
</tr>
<tr>
<td>Wildfire</td>
<td>4</td>
<td>1.58</td>
<td>13</td>
<td>850</td>
<td>0</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>9</td>
<td>3.58</td>
<td>100</td>
<td>13,639</td>
<td>2,200,000</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>81</td>
<td>32.00</td>
<td>2,184</td>
<td>1,548</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>16</td>
<td>6.72</td>
<td>782</td>
<td>604</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>13</td>
<td>4.74</td>
<td>2,458</td>
<td>1,066</td>
<td>278,000,000</td>
</tr>
<tr>
<td>Total</td>
<td>253</td>
<td>100</td>
<td>96,727</td>
<td>8,863,338</td>
<td>30,655,100,000</td>
</tr>
</tbody>
</table>
Disaster management structure and legislation

Turkey has an effective, reliable and complex system of civil protection. At its apex is the Prime Ministry Crisis Management Centre, which was established in 1997 with the aim of coordinating all rescue activities during national emergencies. All ministers with responsibilities for prevention, mitigation or direct intervention during emergency situations are represented on the Crisis Coordination Council, which is the main operational entity activated during a national emergency.

Following the devastating earthquakes of 1999, the Turkey Emergency Management General Directorate (TEMAD) was established with the support of the World Bank to create an upper tier capable of coordinating the actions of different actors at local, national and international level during the emergency phase of disasters. The General Directorate also acts as an inspectorate on the implementation of civil protection laws and regulations, as well as for the design and implementation of tactical and strategic plans.

The Directorate was tasked with the following: to take necessary measures in order to provide effective emergency management, including coordination between governmental and private organizations; to coordinate the use of rescue and relief equipment, including all types of land, sea and air vehicles; to make arrangements that encourage voluntary organizations and individuals to provide relief in emergency situations; and to carry out other duties which may be assigned by the Prime Minister.

In terms of international cooperation, TEMAD is the contact point for OCHA and other agencies related to disaster risk reduction, including NATO EADRCC and the European Union Monitoring and Information Centre (EU-MIC). TEMAD is also responsible for the coordination of humanitarian assistance and the civilian side of humanitarian operations led by the United Nations or in a bilateral context.

Provincial crisis management centres, under the responsibility of local governors, are the operational hubs in charge of the coordination of all the activities carried out at local level during the emergency phase, including the activation of military forces, police and civil defence units, or the inclusion of private contractors in the operations.

The governors are also on duty to coordinate municipal fire brigades and for preparedness of local civil defence units.

A draft law on civil protection being considered by the Turkish National Assembly will establish a new scheme for risk management, namely the Turkish Disaster and Emergency Management General Directory. It will be based on a unified structure of civil protection under the Presidency of the Ministry Council. The new structure has been designed with the aim of creating a unique upper general directorate with wider powers and direct control over the overall organisation of civil protection.

Existing legislation relevant to disaster risk reduction includes the Law on Protection against Flash Floods; the Law on Civil Defense; and the Law on Measures and Assistance to be put into Effect Regarding Natural Disasters Affecting the Life of the General Public.

How education is used to promote safety

The promotion of education programmes and the adoption of new school curricula and university courses have helped to further enhance the public perception and awareness of disaster risk reduction in Turkey. Furthermore, specific technical structures and schools for the training of personnel working in civil protection units are in place and there is constructive cooperation with universities.

Several governmental bodies are involved in the use of education to achieve disaster resilience and awareness. Among them, the General Directorate of Disaster Affairs, General Directorate of Civil Defense, TEMAD and local administrative bodies of Istanbul are the main actors organizing public awareness campaigns.

Following the two major earthquakes of 1999, the Ministry of Education radically changed school curricula. Under the new system, curricula for primary and secondary levels (age 6–14) focus on preparation and protection for disasters, while at high-school level (age 15–17) the students receive more detailed knowledge on the causes of disasters, and civil protection, mitigation and response activities. Schools invite external specialists for training of both teachers and students and conduct annual evacuation exercises.

The Natural Disasters Education Center (AFEM), under the General Directorate of Disaster Affairs, is a specialized centre established within EUR-OPA which delivers training on hazard reduction activities. Its target group comprises technicians, administrators, and groups which have responsibility for various disaster management tasks.

In addition to governmental bodies, there are specialized research centres in the field of disaster management within Istanbul Technical University and the Middle East Technical University. Among them, Istanbul Technical University’s Center of Excellence for Disaster Management has been established as a resource to serve activities such as training, consultation and research. The broad aims of the centre are to develop strategies and projects, and to construct a bridge between neighbouring countries and developed countries specifically in disaster management.

One of the objectives of the Istanbul Seismic Risk Mitigation and Emergency Preparedness Project is to conduct public awareness campaigns and training in emergency management. Training topics covered include sur-
vival under extraordinary situations, first aid, structural awareness, non-structural risk awareness and retrofitting of public buildings.

Other activities have been conducted by the Japan International Cooperation Agency, which has organised a training programme using different formats and a variety of media. Trainings have included educational activities, publications, visual tools (using CDs and DVDs), and video conference for trainings in the field of disaster management in coordination with different governmental organizations. Target groups of these trainings are governmental officers, emergency managers and technical staff. In all, 253 senior local administrators such as governors and deputy governors have benefited.

As the result of this programme, an interactive training set in DVD format was prepared and a book of “Basic Principles of Disaster Management” was published. Both were distributed to all governmental units and universities, and were made available to the public. The Agency also organised video conference training programmes through which Japanese experiences on disaster risk reduction were transmitted to their Turkish counterparts.

Principles of Disaster Management” was published. Both set in DVD format was prepared and a book of “Basic

United Nations and other international organizations

- UNDP has also contributed to the overall efforts to raise the capacity of and strengthen disaster management in Turkey. Three projects have been developed: Strengthening of Coping Capacities of Populations Affected by the Marmara Earthquake; Local Capacity-Building for Disaster Prevention; and Preparedness and Improvement of the Disaster Management System in Turkey. All three projects have some components targeting public awareness at community and national level, as well as the production and distribution of educational material and training of trainers. However, none of these programmes have partnered with the MoE, nor have they addressed the formal educational curriculum.

- The ongoing UNICEF Country Programme Action Plan has been developed for the period 2006–2010 and aims to support education, health, early childhood development, child protection and child participation in Turkey by working towards the increased availability of data and information about child rights issues, and by advocating for policy change.

Disaster risk reduction is mainstreamed chiefly into the programmes Quality Education; Advocacy, Information, and Social Policy; and Early Childhood Care and Learning. Other UNICEF activities related to risk reduction have included participation in a knowledge, attitudes and practices (KAP) survey conducted on avian influenza. This involved participation in the communication campaign and the printing of over 180,000 copies of a training pack. Accordingly, training on the protection of children and families from avian influenza was provided to 143,800 frontline workers all over the country. They included vets, agricultural engineers, provincial administrators, teachers and community leaders such as imams and village/neighbourhood muhtars. This training was conducted by 378 provincial trainers who had themselves been trained by a central team of 16. The training model, materials and guide previously developed with UNICEF technical support were used, including instructions on how to monitor. Moreover, 3,000 books for provincial trainers and 180,000 guidebooks for frontline workers were developed, printed and distributed. Positive feedback was received from the trainees on training materials and training sessions.

In addition, in 2009 UNICEF entered a project cooperation agreement with the NGO Blue Crescent on developing a manual for schools on disaster management.

- Turkey has officially appointed an HFA Focal Point (Annex 3) as a first step in its implementation and pursuit of HFA objectives and strategic goals.

Selected national and international partners involved in disaster risk reduction

National Organizations

- Following the 1999 Kocaeli earthquake, Bagazici University, Kandili Observatory and the Earthquake Research Institute launched the Istanbul Community Impact Project with support from the United States Agency for International Development (USAID). The project successfully developed curricula and outreach materials in basic disaster awareness and disseminated these, in partnership with NGOs and the directorates of education in the Marmara region, with school and community-based instructors. Curricula were also developed in non-structural mitigation and structural awareness for seismic safety. More than 1.2 million school children and 66,000 school teachers were reached in the initial effort.

The goal of the 2003–2005 “Basic Disaster Awareness in Turkish Schools” project, developed in partnership with the MoE, was to create the basis for institutionalizing this education programme by training 15,000 school-based basic disaster awareness instructors, who would in turn reach 5 million school children in the 30 most populous provinces at risk. As a result, hazard adjustments in the areas of assessment and planning, physical protection and response capacity development has been shown in schools and family households. Key opportunities to embed this progress into a culture of safety remain with the MoE in establishing an ongoing National Disaster Awareness Workgroup tasked with programme integration into the national curriculum and expansion from pre-school through high-school level in public and private schools nationwide.
Hazards and disasters overview

The availability of disaster data for Turkmenistan is limited in comparison to other countries in the region. However, analysis of reported disaster data shows that the country is severely affected by earthquakes. A devastating 7.2 magnitude earthquake in the Ashkabat region on 5 October 1948 reportedly killed 110,000 people, while a 7.1 magnitude earthquake on 5 January 1929 killed over 3,200 people. The two primary seismic zones lie under the Turkmenbashi and Ashkhabad regions.

The flood hazard is also significant and flooding is common in the watersheds of the Atrek and Siraks rivers, notably where the Siraks border Iran. The only recorded flood disaster was in January 1993, when 420 people were affected and reported economic loss amounted to $100 million.

Turkmenistan is also vulnerable to landslides, although the risks they pose are limited because they occur mostly in sparsely-populated mountain areas.

The only reported disaster caused by a technological hazard was a transport accident in the Vatutino region which killed 40 people in September 1998.

EM-DAT shows (Table 21) that during 1993–2000, there was one earthquake and one flood reported.

Disaster management structure and legislation

How education is used to promote safety

Selected national and international partners involved in disaster risk reduction

National Organizations

- The Red Crescent Society of Turkmenistan (RCST) works in close cooperation with the government and is well known among the population. Since 1999, the RCST has operated a well-trained and equipped search-and-rescue team with experience in rescue operations (including the Spetak earthquake). Under the public safety campaign, the RCST has founded local community-led disaster preparedness committees to raise awareness on preparedness measures and essential knowledge on behaviour in emergency situations. The RCST is well experienced in response to small-scale natural disasters due to flooding and earthquakes. The RCST’s chairwoman is a member of the State Emergency Management Commission under the Cabinet of Ministers.

Table 21. Turkmenistan: Summary data on disasters caused by natural (1993–2000) and technological hazard (1998), including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>1</td>
<td>33.33</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>1</td>
<td>33.33</td>
<td>0</td>
<td>420</td>
<td>99,870,000</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>1</td>
<td>33.33</td>
<td>40</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3</strong></td>
<td><strong>100</strong></td>
<td><strong>51</strong></td>
<td><strong>420</strong></td>
<td><strong>99,870,000</strong></td>
</tr>
</tbody>
</table>
United Nations and other international organizations

- The overarching goal of the UNICEF 2010–2015 Country Programme is to support the progressive and sustainable realization of the rights of children and women consistent with the goals formulated in the “National Programme of Turkmenistan for Transformation of Social Conditions of the Population of the Villages, Settlements, Towns, and Districts up to 2020.” The programme aims to improve awareness levels in the population as part of communication and development activities. This will particularly emphasize activities to promote an increased level of awareness among children and legislators on children’s and women’s rights; life skills concepts and HIV/AIDS among adolescents; gender issues; and disaster preparedness through a broad-based communication strategy providing national coverage. This will be done using best practices using different forms of media to reach nationwide coverage. Pre- and post-intervention surveys will be carried out to ensure a more rigorous basis for measuring change.

UNICEF’s continued work in disaster and emergency preparedness will contribute to the Government’s aim to effectively respond to disasters caused by natural and technological hazards.

The 2005–2009 country programme aimed to support the Government and other partners in the development of a comprehensive, rights-based policy framework for ensuring quality, access and use of basic social services. It built on activities undertaken in the previous period, which included the introduction of an innovative methodology for interactive teaching and learning, and for life skills-based health education and HIV/AIDS prevention for adolescents.

- UNISDR does not have a Focal Point in Turkmenistan as the country is not a party to the HFA.
Hazards and disasters overview

In terms of the total number of people affected, floods represent the greatest natural hazard in Ukraine. In the period 1992 to 2007, some 11 separate floods affected a total of nearly 2.4 million people, causing 38 deaths and an economic loss of over $296 million. The country is also vulnerable to natural hazards including extreme temperatures, wind storms and epidemics. Storms have been especially damaging, with seven major storms killing 21 people, affecting over 56,000 others and causing an economic loss of over $155 million.

The most recent disasters caused by natural hazards were floods in the Trans-Carpathian region in 1998 and 2001, a hurricane in the summer of 2000 and an ice storm that struck the Odessa region in November 2000.

EM-DAT shows (Table 22) that between 1992 and 2007 there were 31 disasters caused by technological hazards, including 11 traffic accidents, 13 industrial accidents and seven miscellaneous accidents. Industrial accidents were responsible for the greatest number of deaths (478), while a further 375 people died in major traffic accidents. Miscellaneous accidents killed 188 people and affected a further almost 6,000.

Disaster management structure and legislation

The Ukraine Ministry of Emergency is the central administrative body that carries out state policy in the field of civil defence, including emergency protection, prevention and response, and avoidance of the consequences of disasters (including Chernobyl). The Ministry is also in charge of disaster management and is responsible for its development. This extensive role involves the development and implementation of a range of civil protection activities, including those involving Chernobyl. They are:

- supervision of the activities of management bodies, headquarters, civil defence forces and subordinated specialized bodies;
- coordination of the activities of ministries and other central bodies of the executive power, the Council of Ministers of the Autonomous Republic of Crimea, local state administrations, enterprises, institutions and organizations of all forms to address problems of protection of the population and territory in cases of emergency and emergency response;

Table 22. Ukraine: Summary data on disasters caused by natural (1992–2007) and technological hazards (1992–2007), including number of human casualties and economic impact

<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemic</td>
<td>3</td>
<td>5.55</td>
<td>275</td>
<td>6,771</td>
<td>0</td>
</tr>
<tr>
<td>Extreme Temperature</td>
<td>2</td>
<td>3.70</td>
<td>801</td>
<td>59,600</td>
<td>85,000,000</td>
</tr>
<tr>
<td>Flood</td>
<td>11</td>
<td>20.37</td>
<td>38</td>
<td>2,373,510</td>
<td>296,114,000</td>
</tr>
<tr>
<td>Wind Storm</td>
<td>7</td>
<td>12.97</td>
<td>21</td>
<td>56,662</td>
<td>155,600,000</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>11</td>
<td>20.37</td>
<td>375</td>
<td>598</td>
<td>0</td>
</tr>
<tr>
<td>Industrial Accident</td>
<td>13</td>
<td>24.07</td>
<td>478</td>
<td>202</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>7</td>
<td>12.97</td>
<td>188</td>
<td>5,991</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>100</td>
<td>2,176</td>
<td>2,503,334</td>
<td>536,714,000</td>
</tr>
</tbody>
</table>
defining the main directions of protection activities in emergencies, including the rehabilitation of territory contaminated as a result of the Chernobyl catastrophe;

- national supervision and monitoring of civil defence and technological safety, and the conducting of emergency preparedness and prevention measures;

- arranging and coordinating activities in the exclusive zone and zone of mandatory resettlement, including solving the problems of their financing, public protection and safety (including the health of staff within this territory who are protecting the scientific and economical interests of Ukraine);

- coordinating the formation and realization of the unified scientific-technical policy involving the development and implementation of modern information technologies – including a civil defence database – to support protection activities and protection from the consequences of Chernobyl;

- training and retraining of civil defence staff on the problems of protection, including those involving Chernobyl, and the training of the population in emergencies.

How education is used to promote safety

Selected national and international partners involved in disaster risk reduction

National Organizations

United Nations and other international organizations

- UNDP has engaged in two major relief efforts in Ukraine over the last 10 years. In response to the devastating ice storm that killed six people, injured a further 740, destroyed or damaged many buildings and vehicles, and left hundreds of communities without electricity in the Odessa region in November 2000, UNDP developed the Disaster Response Project for Odessa Oblast to provide emergency assistance to the affected population. A second relief effort followed in March 2001 when melting snow and heavy rainfall caused the Tisa River to flood areas of Trans-Carpathian Oblast in western Ukraine. UNDP, in cooperation with UNICEF and the Ukraine Ministry of Emergency developed the Trans-Carpathian Disaster Response and Prevention Project. The United Nations played a central role in coordinating national and international flood relief efforts.

- The United Nations office in Ukraine has also supported longer-term development measures in response to the Tisa flood, including the preservation of forests, reforestation, improvement of monitoring techniques and early-warning technologies, and a public awareness campaign. A Disaster Management Training Programme sub-regional workshop for Moldova, Romania and the Ukraine occurred in June 2003, focusing on environmental and technological disasters.

- UNICEF opened its office in Kyiv in 1997. Since then, the children’s agency has been working to improve the lives of children and families throughout Ukraine. UNICEF has become increasingly involved in supporting the Ukrainian authorities to create a favourable environment for children in need by developing substantial health, nutrition, child development and protection programmes. UNICEF is currently implementing its 2006–2010 country programme in cooperation with the Government, national civil society and international organizations, contributing to the reduction of child mortality and morbidity, improving maternal health, combating HIV/AIDS, protecting the vulnerable, creating a knowledge-base on children, advocating for and supporting development of child-friendly laws and policies and national budgets in support of them, and developing a global partnership for children.

UNICEF has four main programme areas of intervention in Ukraine. One of them has as its strategic goal to put children and adolescents at the centre of the HIV/AIDS agenda and to build the capacity of Ukraine’s government and civil society to halt and reverse the spread of HIV among children and youth. UNICEF is working to expand the access of young people, especially those most at risk of contracting HIV/AIDS, to correct information, relevant skills and services to reduce their vulnerability to HIV and continue to support life skills-based education both in schools and the out-of-school setting.

- UNICEF has officially appointed an HFA Focal Point (Annex 5) as a first step in its implementation and pursuit of HFA objectives and strategic goals. Ukraine also actively participated in the Euro-Mediterranean Workshop on Disaster Reduction at School, held in October 2007.
Hazards and disasters overview

Significant seismic activity dominates much of the country. Large parts of Uzbekistan’s capital city, Tashkent, were destroyed in a major earthquake in 1966, and other earthquakes have caused significant damage before and since. The mountain areas are especially prone to earthquakes. A magnitude 7.0 earthquake of Gazli in May 1976 caused an economic loss of $85 million, while in March 1984 an earthquake of similar magnitude in the Gazli–Bokhara region affected 201,100 people and caused an economic loss of $5 million. More recently, in May 1992, a magnitude 6.2 earthquake killed nine people and affected 50,000 others in the Andizhan region.

Drought hazards are also significant, with an event in 2000 affecting 600,000 people and causing an economic loss of $50 million.

Uzbekistan is also vulnerable to floods and mud flows. A few are caused by snowmelt run-off or severe storms; very large floods and mudslides are generally caused by the outbreak of mountain lakes. There are also trans-boundary hazards from the hundreds of lakes in Kyrgyzstan and Tajikistan that are upstream of Uzbekistan in the Aral Sea basin. In 1998, flooding from the Shakhimardan River originating in Kyrgyzstan killed 100 Uzbeks.

Landslides are a significant hazard in the country’s mountain and foothill areas, while there have been over 2,600 extreme mud flows in the past 80 years50. A landslide in the Angren region in May 1991 killed 50 people, while a landslide in January 1992 killed one person and affected 400 others.

Uzbekistan has also been vulnerable to epidemic hazards. In February 1998, 40 people died and 148 others were affected by bacterial infection.

There have been four disasters caused by technological hazards, including three major transport accidents and two miscellaneous accidents that killed 159 people and affected almost 24,000 others.

Disaster management structure and legislation

Over the past ten years, Uzbekistan has placed a greater emphasis on emergency preparedness and prevention.


<table>
<thead>
<tr>
<th>Disaster</th>
<th>Number</th>
<th>Percentage</th>
<th>Total deaths</th>
<th>Total affected</th>
<th>Economic loss ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drought</td>
<td>1</td>
<td>10.00</td>
<td>0</td>
<td>600,000</td>
<td>50,000,000</td>
</tr>
<tr>
<td>Earthquake</td>
<td>1</td>
<td>10.00</td>
<td>9</td>
<td>50,000</td>
<td>0</td>
</tr>
<tr>
<td>Epidemic</td>
<td>1</td>
<td>10.00</td>
<td>40</td>
<td>148</td>
<td>0</td>
</tr>
<tr>
<td>Flood</td>
<td>1</td>
<td>10.00</td>
<td>0</td>
<td>1,500</td>
<td>0</td>
</tr>
<tr>
<td>Slide</td>
<td>2</td>
<td>20.00</td>
<td>25</td>
<td>400</td>
<td>0</td>
</tr>
<tr>
<td>Transport Accident</td>
<td>2</td>
<td>20.00</td>
<td>52</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous Accident</td>
<td>2</td>
<td>20.00</td>
<td>107</td>
<td>23,988</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>100</td>
<td>233</td>
<td>676,036</td>
<td>50,000,000</td>
</tr>
</tbody>
</table>

The Ministry of Emergency Situations (MES) is the central body which manages and coordinates activities in the realm of civil protection, prevention and avoidance of emergency situations, including those that are the consequence of disasters. The MES:

- coordinates the work of ministries, agencies, the Council of Ministers of the Karakalpakstan Republic, khokimiyats (local authorities), oblasts, cities and regions on protection of the population and cultural heritage, prevention and avoidance of emergencies caused by accidents or disasters;
- coordinates activities aimed at preventing large-scale emergencies, including the creation of forces and facilities necessary for this purpose, and maintaining their preparedness;
- develops and implements relevant scientific and technical programmes to prevent emergencies which threaten the population and the national territory, or the stability of national economic assets;
- manages public awareness through emergency training for the population, officials and units of the Emergency Situation State Council (ESSC);
- establishes international cooperation on issues falling under the Ministry’s competence.

Furthermore, in due order and within its mandate, MES decisions are binding and their execution by the following is obligatory: ministries, agencies, associations, the Council of Ministers of the Republic of Karakalpakstan, oblasts, urban and district administrations, enterprises, institutions and organizations.

Disaster risk management priorities are to:

- exchange technical achievements to enhance prevention, and to conduct mutual research;
- conduct exchanges to develop government structures, and improve economic resilience and the capacities of civil protection personnel;
- gain familiarity with the disaster-related experiences of other countries to enhance the development of a national system of prevention, including the development of mutual projects;
- share operational information, especially with bordering states, regarding the forecasting of necessary assistance;
- develop the capacities of training specialists and conduct joint training;
- share of experiences among citizens to enhance prevention;
- and participate in disaster risk reduction activities in other countries using members of the “International register fast reaction” forces.

Legislation relevant to disaster risk reduction includes the Resolution of the President of the Republic of Uzbekistan On the Measures Aimed at Prevention of Emergency Situations Associated with Floods, Mudflows, Snow Slides and Landslides, and Liquidation of their Consequences.

How education is used to promote safety

Specially-designed trainings targeting specific sections of society and aimed at ensuring personal safety have been approved by the Ministry of Public Education and the Ministry of Higher Education. The programmes run across a broad spectrum of educational institutions, from pre-schools, through secondary schools, to colleges, universities and institutes for teacher advancement.

The training of senior personnel of local executive authorities, enterprises and organizations is provided on the basis of the Institute of Civil Protection of the MES. In the regions, training is provided by “centres for preparedness of the population and executive staff of local structures”. The annual training programme is approved by the Prime Minister, who is head of civil protection.

Population awareness training is carried out at institutions, enterprises and organizations in accordance with a specially-developed programme, as well as through mass media including the printed press, radio and TV.

Selected national and international partners involved in disaster risk reduction

National Organizations

- The MES exercises coordination and control over the preparation of the population on the basics of life safety. The MES regularly conducts special exercises and trainings on population preparedness and disaster risk reduction. Within the programme on emergency situations prevention, the Red Crescent Society fulfils the projects at community level. This can involve such activities as the planting of seedlings on slopes prone to landslides, the cleaning of drainage systems in order to decrease the level of ground water, and the cleaning of river-beds, channels and gullies for the by-passing of flood waters and mud flows etc.
- Similarly, the Institute of Geology and Geophysics, of the Academy of Sciences of Uzbekistan, has undertaken certain mitigation activities related to seismic hazards, such as the reinforcement of school buildings, the provision of preparedness trainings to school children, and the development and publishing of awareness brochures under the motto “preparedness begins at schools”.

51 Information in this section is largely taken from “Uzbekistan: National progress report on the implementation of the Hyogo Framework for Action”, 2009. For more information, see http://www.preventionweb.net/english/countries/asia/uzb/
United Nations and other international organizations

- The new UNICEF Country Programme Action Plan (CPAP) signed with the Government of Uzbekistan for 2010–2015 includes a disaster preparedness and disaster risk reduction element that will enhance the Government’s disaster preparedness strategy, particularly in the education sector. As part of a component included under the programme Strengthening National Capacity for Social Policy Development and Implementation, the disaster preparedness capacities of local governments, communities and schools in such areas will be further strengthened in risk assessment, planning, mitigation and awareness.

As a result, selected local communities will show greater resilience and have stronger networks. The Ministries of Emergency Situations and Public Education, UNDP, the International Committee of the Red Cross and EC will be major partners.

In the framework of the new CPAP, the partnership with the following organizations will be continued: Ministry of Emergency Situations; Ministry of Public Education; Ministry of Health; Institute of Civil Protection of the Ministry of Emergency Situations; Institute of Seismology of the Academy of Sciences; provincial Khakimiyats (municipalities) of nine regions; provincial Departments of Emergency Situations of the Ministry of Emergency Situations; provincial/ rayon Departments of Public Education of the Ministry of Public Education; provincial/ rayon Departments of Health of the Ministry of Health; Civil Protection Training Centres of the Ministry of Emergency Situations; In-Service Teacher Advanced Training Institutes of the Ministry of Public Education and In-Service Qualification Improvement Institutes for Medical Staff Advanced Training; the Makhalla Charity Foundation; local NGOs; Red Crescent Society of Uzbekistan; Handicap International; Netherlands Red Cross; Europe House; UNCT; and UNISDR.

The project has made solid developments in the area of disaster preparedness education. These have included a targeted programme on Educating the Population for Potential Emergency Situations, which covered the period of 2007–2011. With DIPECHO funding support, by the end of the project the Government’s strategy and action plan had been improved in terms of preparedness and risk reduction, and vulnerable communities had been supported through the introduction of the participatory disaster preparedness and risk reduction information system adopted by the Civil Protection Department and Center of Management in Crisis Situations of the Ministry for Emergency Situations. The latter coordinates the state, private, and civil society organizations on disaster prevention and recovery/rehabilitation in emergency situations.

UNICEF has been working in Uzbekistan since 1994. Its first programme, which ran from 1995 to 1999, provided supplies, training and techniques for health-care, backed by social mobilization. By 1999, basic services for children were well under way, allowing the organization to shift to a rights-based approach aiming to ensure that the Convention on the Rights of the Child became the standard for health and education and for measures to protect children. The most recent programme, which was completed in 2004, included “drought emergency” as one of its four major areas.

- Uzbekistan and has initiated internal procedures to appoint an HFA Focal Point as a first step in its implementation and pursuit of HFA objectives and strategic goals. In addition, Uzbekistan actively participated in the Asia Conference on Disaster Reduction, held in June 2007, as well as in the Community-Based Disaster Risk Management Workshop, based on the HFA, held in December 2007.
South Eastern Europe and the Commonwealth of Independent States is a very large and diverse region broadly sub-divided into South Eastern Europe, the Caucasus and Central Asia, with each group sharing a number of disaster risks and vulnerabilities. In addition to exposure to natural and technological hazards there are a number of variables – such as the level of industrialization, economic activity and population distribution, as well the general level of development of each individual country – which makes generalization challenging.

Population and gross national income per capita have been presented together with the annual average incidents and the number of deaths per country in Table 24.

Table 24. Population and GNI, and annual average incidents and number of deaths

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (millions)</th>
<th>GNI per capita ($)</th>
<th>Annual average incidence of major perils</th>
<th>Annual average number of deaths due to all perils</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>3.1</td>
<td>2,580</td>
<td>0.63</td>
<td>7.47</td>
</tr>
<tr>
<td>Armenia</td>
<td>3.0</td>
<td>1,470</td>
<td>0.83</td>
<td>8.92</td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>8.4</td>
<td>1,270</td>
<td>1.40</td>
<td>46.87</td>
</tr>
<tr>
<td>Belarus</td>
<td>9.8</td>
<td>2,760</td>
<td>0.13</td>
<td>1.44</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>3.9</td>
<td>2,680</td>
<td>2.33</td>
<td>11.00</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>7.7</td>
<td>3,510</td>
<td>0.44</td>
<td>4.10</td>
</tr>
<tr>
<td>Croatia</td>
<td>4.4</td>
<td>8,350</td>
<td>1.20</td>
<td>63.67</td>
</tr>
<tr>
<td>Georgia</td>
<td>4.5</td>
<td>1,300</td>
<td>1.38</td>
<td>29.25</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>15.1</td>
<td>2,940</td>
<td>1.50</td>
<td>26.38</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>5.1</td>
<td>450</td>
<td>1.67</td>
<td>30.73</td>
</tr>
<tr>
<td>The former Yugoslav Republic of Macedonia</td>
<td>2.0</td>
<td>2,830</td>
<td>1.29</td>
<td>17.29</td>
</tr>
<tr>
<td>Moldova</td>
<td>3.9</td>
<td>960</td>
<td>0.83</td>
<td>6.25</td>
</tr>
<tr>
<td>Montenegro</td>
<td>0.68</td>
<td>3,286</td>
<td>1.91</td>
<td>18.36</td>
</tr>
<tr>
<td>Serbia</td>
<td>8.1</td>
<td>3,220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td>21.6</td>
<td>3,830</td>
<td>1.29</td>
<td>66.44</td>
</tr>
<tr>
<td>Russia</td>
<td>143.1</td>
<td>4,470</td>
<td>19.43</td>
<td>668.50</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>6.6</td>
<td>330</td>
<td>3.27</td>
<td>147.93</td>
</tr>
<tr>
<td>Turkey</td>
<td>72.1</td>
<td>4,750</td>
<td>2.47</td>
<td>939.10</td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>4.8</td>
<td>1,700</td>
<td>0.43</td>
<td>7.29</td>
</tr>
<tr>
<td>Ukraine</td>
<td>46.6</td>
<td>1,950</td>
<td>3.60</td>
<td>145.07</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>26.2</td>
<td>530</td>
<td>0.71</td>
<td>16.64</td>
</tr>
<tr>
<td>Slovenia</td>
<td>2.0</td>
<td>17,290</td>
<td>0.78</td>
<td>32.89</td>
</tr>
</tbody>
</table>
However, along with diversity countries of the region share a number of common characteristics. These include geophysical, social and political contexts; the transition from centrally-planned to market economies, which many countries have undergone; deep-rooted national and regional conflicts, political tensions and even wars; the creation of new nations; and rapid and unplanned changes in land use. Furthermore, due to regional climate change there has been an increase of droughts, wildfires, extreme temperatures and floods across the region.

The occurrence of different perils in each country, as per EM-DAT database, is presented in Table 25. The common perils for all countries are floods and, with the exception of Moldova, technological accidents. Wind storms, epidemics, extreme temperatures and droughts occur in the majority of countries.

This matrix does not capture all the events or the severity of the events in each country, due to the EM-DAT data base criteria. Various other reports show different scenarios. For instance, there are historical records of severe earthquakes affecting both Bosnia and Herzegovina, and the former Yugoslav Republic of Macedonia. The most recent earthquake in Bosnia and Herzegovina occurred in 1963, when Skopje was heavily damaged by a major earthquake that killed 1,070 people. It is a similar picture in Moldova, where historical records show that the country is prone to earthquakes due to the proximity of the Vrancea region.

Table 25. Country wise peril matrix

<table>
<thead>
<tr>
<th>Countries</th>
<th>Droughts</th>
<th>Earthquakes</th>
<th>Epidemics</th>
<th>Extreme Temperatures</th>
<th>Floods</th>
<th>Insect Infestations</th>
<th>Slides</th>
<th>Wave/Surges</th>
<th>Wild Fires</th>
<th>Wind Storms</th>
<th>Technological Accidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albania</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Armenia</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belarus</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Croatia</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kazakhstan</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The former Yugoslav Republic of Macedonia</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moldova</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montenegro</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serbia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovenia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tajikistan</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ukraine</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

52 Stability Pact for South Eastern Europe, Disaster Preparedness and Prevention Initiative: Harmonization of Seismic Hazard Maps for the Western Balkan Countries.
Thus, the ever-present threat of earthquakes is of particular concern to the region. UNDP’s Disaster Risk Index places Armenia at the top of the list of the region’s vulnerable countries, and classifies Turkey, Russia, Georgia and Kyrgyzstan as having relatively high risk, while Azerbaijan, Albania, Kazakhstan and Uzbekistan share a medium-to-high risk.

The dramatic nature of major earthquakes, the likelihood that national capabilities will be overwhelmed and the urgent necessity of external assistance give them widespread visibility and attention. In most nations of the SEE and CIS region where seismic conditions present a major threat, key national authorities, and certainly the emergency preparedness and supporting academic community, appear to comprehensively understand this risk as well as the basic analysis capability and mapping tools needed to accurately define high-threat areas, and the need to share the information with other nations and the public.

Floods regularly cause substantial damage to private and public property, enormous disruption to commerce and society, and loss of life. Among all natural hazards floods result in the highest financial losses and claim the most victims in Europe\textsuperscript{55}. Structural measures such as dykes and levees – often centuries old – provide protection against the more frequent floods, but rare events may exceed the design capacities of the protection resulting in the massive losses seen in recent years.

It appears that supposedly “rare” events may be becoming more frequent due to changing patterns of development and climate change. As Table 24 shows, all countries of the region are vulnerable to high flood risk. Furthermore, the risks associated with flooding and landslides in mountainous countries such as Azerbaijan, Kyrgyzstan and Tajikistan, where occurrences are frequent, are compounded if they occur in areas where vulnerable chemical or nuclear facilities are located; in certain areas of Central Asia waste dumps and chemical facilities from the Soviet era are located in some of the most populated regions.

Similar to floods, technological hazards such as transport and industrial accidents represent a common threat across the region. Major transport accidents are particularly numerous in several countries, though none of them from Central Asia. Furthermore, the Chernobyl accident has impacted several countries in the region, and Belarus and Ukraine are still quite focused on alleviating the consequences. While the physical processes are gradually reducing the level of radioactive contamination in the environment, people in the affected areas are still facing the legacy of depressed economic development.

Forest and grassland fires are also a regular occurrence in much of South Eastern Europe and are often linked to dry summer periods or as a result of drought conditions. In the last several years the simultaneous occurrence of large numbers of major forest fires in many countries of the region has brought a new awareness that this specific threat transcends national borders. In addition many countries in the region, particularly in Central Asia and the Caucasus, suffer from droughts. This has a considerable implication on the agricultural sectors and consequently the general economies of the countries in question.

The risks posed by disasters caused by natural or technological hazards are intimately connected to the processes of human development. In short, they are a threat to it. Furthermore, the development choices made by individuals, communities and nations can generate new disaster risks, as has been the case in several countries of the region. The location of hazardous industrial facilities in areas prone to natural hazards is a case in point.

However, this need not be the case because human development can also contribute to a significant reduction in disaster risk. The problem in the SEE and CIS region is that despite the many advances in the overall economic and political situation the risks posed by natural and technological hazards remain significant, and in many countries they are not being sufficiently addressed through systematic disaster risk reduction.

UNICEF

There are various examples across the region of how UNICEF is increasingly integrating disaster risk reduction into the education components of its country programmes. Through activities including mine-risk education in Bosnia and Herzegovina and the mainstreaming of disaster risk reduction into education programmes in Turkey, UNICEF has demonstrated a growing emphasis on the provision of education and training to enhance prevention and preparedness for emergencies. The incorporation of disaster risk reduction into its life skills and child-friendly schools programming is helping to facilitate this.

UNICEF plays a lead role in education sector coordination mechanisms, which already function at country level under the overall coordination of the United Nations Humanitarian Coordinator. One example is the UNICEF role in Tajikistan’s REACT, which comprises over 60 key national and international governmental and non-governmental organizations and has developed an inter-agency plan for preparedness and response.

Specific activities include those in 2006 when six UNICEF country offices supported local initiatives responding to floods, earthquakes, avalanches and mudslides. These emergencies pose a serious threat to children and women, particularly in distant rural areas where basic services are usually severely limited. At the same time, half of the country offices in the region updated their emergency preparedness and response plans, while several other offices undertook independent updates.

Emergency trainings were held in Armenia, Montenegro, Tajikistan, the former Yugoslav Republic of Macedonia and Turkmenistan during the year to enhance the knowledge and capacities of UNICEF staff and, in some cases, those of sister United Nations agencies, government counterparts and NGO partners. This was crucial for the humanitarian action reform process and for ensuring awareness of the legal basis for advocacy concerning the rights of women and children. These trainings also had an impact on future programme development by clarifying roles and responsibilities during humanitarian responses.

The UNICEF CEE/CIS regional office provides continuous technical guidance to country offices in reviewing and updating their emergency preparedness and response plans, as well as linking those plans to the broader inter-agency contingency planning processes. Specific attention is given to the development and enhancing of inter-agency partnerships, initiating common assessments, utilizing inter-agency guidelines and commonly-developed tools, and ensuring the implementation of the sectors in which UNICEF has a lead role, such as education and child protection.

UNISDR

UNISDR recognises that education for disaster risk reduction is essentially an interactive process of “mutual learning” between individuals and institutions. A key element of this is education at schools and universities, and in training courses. However, it also involves the use of traditional wisdom and local knowledge to safeguard against natural hazards as well as the active participation of the mass media.

Through its 2006 global campaign Disaster Risk Reduction Begins at School, UNISDR focused on education as the most effective way to build a culture of prevention and disaster resistance. The campaign centred on the promotion of safety of school buildings and the mainstreaming of disaster risk reduction into school activities and curricula.

The theme was chosen in recognition that schools represent the best venues for “forging durable collective values”. The campaign was in line with the third priority of the HFA, “to use knowledge, innovation and education to build a culture of safety and resilience at all levels”.

In the same year, the International Day for Disaster Reduction was celebrated in the SEE/CIS region with a special emphasis on child involvement, including art competitions and similar. Numerous activities targeting children and their surroundings were organized, including a seismic risk reduction project for schools in Armenia; a project on basic disaster awareness in Turkey; a school earthquake resilience initiative in Tajikistan; the development of movies, cartoons and computer games on disaster risk reduction for children in Kazakhstan, and similar projects.

UNISDR works in close cooperation and collaboration with a number of organizations\(^\text{54}\) to promote activities to achieve enhanced education for disaster risk reduction. It adopts a “cluster approach” to combine partners’ efforts and achievements on the issue of education and knowledge. Among other things, this approach aims to strengthen networking, create new partnerships, identify gaps and share members’ priorities. It also aims to identify focus areas and collectively advance the achievement of HFA goals though knowledge and education.

Since its first meeting in November 2005, the cluster has commissioned a desk study on knowledge and education and disaster risk reduction with the aim of identifying good practice that can be replicated and that can be served as a baseline for future impact assessment, especially at country level. The study also aims to identify how good and innovative practice can be scaled up.

Within the framework of the second phase of the South Eastern Europe Disaster Risk Management Initiative (SEEDRMI), enhanced education on disaster risk reduction issues is considered to be addressed by UNISDR through a number of national and regional activities in close cooperation and collaboration with organizations including UNICEF, IFRC, DPPI SEE, UNDP/BCPR and UN CTs.

SEEDRMI was launched in late 2006 in line with the HFA aimed to reduce the vulnerability of the countries of South Eastern Europe to the risks of disasters. It was followed by the South Eastern Europe Disaster Risk Management and Adaptation Program (SEEDRMAP), which was developed by UNISDR and the World Bank within the context of the Global Facility for Disaster Reduction and Recovery\(^\text{55}\).

The second phase of SEEDRMI involves investments made by the World Bank and implemented with UNISDR and partners. The investments follow the first phase of SEEDRMI, which aimed at reviewing South Eastern Europe within the context of (i) hydro meteorological forecasting, data sharing and early warning; (ii) coordination of disaster mitigation, preparedness, and response; and (iii) financing of disaster losses, reconstruction and recovery, and disaster risk transfer (disaster insurance). The findings of these reviews facilitated the development of a concept note capturing the rationale for World Bank investments in the region as well as programme development proposals.

\(^{54}\) Members of the cluster include: ActionAid International, ADRC, AU, Council of Europe, CRED, FAO, IFRC, ITU, ProVention Consortium, UNCRD, UNDP/BCPR, UN/ECE, UNESCO, UNICEF UNU/EHS, UNV and WMO.

\(^{55}\) To find out more about the Global Facility for Disaster Reduction and Recovery see www.worldbank.org or www.unisdr.org.
Other Regional Disaster Risk Reduction Activities Related to Education

European and Mediterranean Major Hazards Agreement

Created in 1987, the Council of Europe (CoE), European and Mediterranean Major Hazards Agreement (EUR-OPA) is a platform for cooperation between European and Southern Mediterranean countries in the field of major disasters caused by natural or technological hazards. Its field of action covers the knowledge of hazards, risk prevention, risk management, post-crisis analysis and rehabilitation. It has to date 25 Member States.

EUR-OPA has a Committee of Permanent Correspondents comprised of representatives from national ministries in the field. Along with its political impetus, an essential feature of the Agreement’s mechanism is its Network of Specialized Centres (25 Centres covering different types of risk).

Recent activities of the Agreement in the field of education have included building a culture of risk reduction at both school and university levels. The school-level activities are to educate children (as the best vehicles for establishing a risk culture) through the use of the Internet. University-level activities have included support to the Post Graduate Training School 2006 MultiRISKS.

The Agreement’s activities since 2007 have been defined according to its medium-term plan for 2007–2011. The plan reflects the priorities for action in the field of disaster reduction in the European and Mediterranean area within the context of the HFA, taking into account the previous activities developed by EUR-OPA in several areas now included in the five HFA priority areas.

Following the Ministerial Session of 2006 which adopted the specific recommendation on disaster risk reduction through education at school, the Agreement has participated in the biannual UNISDR campaign ‘Disaster Risk Reduction Begins at School’ and is an active member of the United Nations Thematic Platform on Knowledge and Education. A pilot project to identify the needs and shortcomings of national and municipal campaigns on population information has been launched in Armenia in recognition of the role public awareness campaigns can play in increasing resilience to disasters.

Disaster Preparedness and Prevention Initiative of South Eastern Europe

The Disaster Preparedness and Prevention Initiative (DPPI SEE) was launched by the Stability Pact for South Eastern Europe in 2000 to contribute to the development of a cohesive regional strategy for disaster preparedness and prevention.

DPPI SEE aims to improve the efficiency of national disaster management systems and endorse a framework for regional cooperation by pulling together ongoing and future activities to identify and address unmet needs. In September 2007, eight countries of the region signed a Memorandum of Understanding on the Institutional Framework of the DPPI SEE and assumed the management and ownership of the Initiative. The countries were: Albania, Bulgaria, Montenegro, the former Yugoslav Republic of Macedonia, Moldova, Romania, Slovenia and Croatia.

Since then Bosnia and Herzegovina as well as Turkey have signed the Memorandum and the DPPI has been expanded to 10 signatories.

The Disaster Management Training Programme (DMTP) started in 2002 as the core activity of the DPPI SEE. In 2006 DPPI partners and donors agreed to review the Programme with a forward-looking perspective to determine the future strategic focus. The main goal of the Programme is fostering cooperation and capacity building in the SEE region at a national, sub-regional and regional level in disaster preparedness and prevention as well as to streamline the international and national disaster management programmes.

The Programme consists of seminars, workshops, training courses and conferences. It aims to address the following: to reflect and coordinate the training needs and capacities of the DPPI SEE countries in disaster management; contribute to the enhancement of expert skills and techniques; increase knowledge on international disaster management preparedness, prevention and response systems; and create a DPPI DMTP Regional Expert’s Database. In 2008, four training events were organized in collaboration and cooperation with UNISDR: two in Croatia and one each in Slovenia and Bulgaria.

Programme for Prevention, Preparedness and Response to Natural and Man-made Disasters

The Programme for Prevention, Preparedness and Response to Natural and Man-made Disasters (PPRD South) contributes to the improvement of the civil protection capacities of Mediterranean partner countries at international, national and local levels, including in Albania, Bosnia and Herzegovina, Croatia, Montenegro and Turkey. The current three-year Programme, which runs from 2009 to 2011 and has a budget of Euro 5 million, builds on the achievements of two previous programmes and contributes to the development of a civil protection culture “based on prevention rather than response”. It works with the civil protection authorities of the participating countries and is managed by a consortium consisting of the civil protection authorities of Italy, France, Egypt and Algeria as well as UNISDR.

The fourth PPRD South focus area involves the information dissemination and awareness-raising of affected populations regarding risk exposure, prevention and response through grass-root activities and events, for example in schools, in high-risk areas.

It follows on from a five-year pilot programme improving civil protection cooperation between the EU states and the Mediterranean Partners (1998–2004) and the Bridge Programme (2004–2008).
For the majority of countries of South Eastern Europe and the Commonwealth of Independent States disaster management structures and legislation are in place. However, for the most part they are focused towards rescue and relief rather than the more complex cross-cutting notion of disaster risk reduction. Efforts are still under way to fully establish the disaster risk reduction agenda across the region, and this includes in the education sector. For this to succeed and the mechanics of disaster risk reduction to be set in place the approach must be both strategic and systematic. It will require the focusing of initiatives in all countries, and will involve the dissemination of disaster risk reduction information to all sectors, levels, key institutions and other stakeholders.

The SEE/CIS region is highly diversified. From a geopolitical standpoint it connects the European Union – with Romania and Bulgaria as the most recent EU members – through the Caucasus and Central Asia to China; and from Turkey – as the only country that has not experienced a socialist or communist regime – to Russia. In terms of socio-economic indicators the diversity is pronounced. It ranges from Tajikistan, which has a GNI per capita of $600; through Russia, which is a member of the Group of Eight leading industrialized nations; to Croatia and Slovenia, with GNI per capita of $13,570 and $24,010 respectively.56

However, despite their size and diversity many countries of the SEE/CIS region share various common characteristics, including geophysical, social and political contexts. They involve the transition from centrally-planned to market economies; deep-rooted national and regional conflicts; and the creation of new nations. In terms of natural hazards, all countries of the region are vulnerable to flooding and almost all are at risk from earthquakes, sometimes – such as the 1988 Spitak earthquake in Armenia which killed 25,000 people – of devastating proportions.

It emerges that most countries in the region have undergone major political, social, economic and administrative change and this is reflected in the legislative and institutional aspects of disaster risk management. In many countries legislation is in the process of development and adoption and some structures are yet to be established. In some cases there is a shift from military to civil administration in disaster management structures, while in many countries even though much new disaster risk management legislation has been passed the laws are yet to be fully implemented or enforced. Furthermore, many countries of the region lack comprehensive national disaster management plans or clear definitions of the roles and responsibilities of different departments. Overall, there is a need to shift the focus from response to disaster preparedness and prevention. Incorporating disaster risk reduction into educational activities at the policy and operational levels will encourage this shift.

However, when consideration moves to the level of inclusion of disaster risk reduction in education sectors a similarly diversified picture emerges. In some countries the government has already included elements of disaster risk reduction in the formal education system, while in others certain activities are undertaken by national and international organizations. Nonetheless, despite some promising signs of the adoption of elements of disaster risk reduction significant capacity gaps remain and several countries would undoubtedly benefit from further encouragement and support in this area.

Integration of disaster risk reduction into school curricula is a long-term process which aims to ensure that knowledge about hazards, risks and appropriate safety behaviour is deeply embedded within communities, with children as “agents of change”. To achieve this there is a need to promote knowledge of disaster management and behavioural change with regard to disaster risks through both formal and informal education, at the same time reinforcing partnerships and encouraging cooperation on disaster risk reduction policies and practices.

Particular consideration has been given to the results achieved and partnerships created by UNICEF, and to the work of UNISDR to facilitate the effective implementation of disaster risk reduction initiatives, strategies and programmes. The presence and areas of engagement of selected United Nations agencies as well as national and international organizations have been observed in order to highlight ongoing activities related to disaster risk re-

56 From World Bank key development data and statistics; all figures correct as of 2008.
duction. Sometimes these activities have been sporadic and conducted at local level, such as visits by fire-fighters to schools in Bosnia and Herzegovina, but there are also examples of a more systematic approach such as the training of over 140,000 front-line workers in Turkey as part of measures to combat the spread of avian influenza.

UNISDR is working through a growing network of National Platforms to mobilize governmental actions in disaster risk reduction as well as directly with the governments in the region, and in particular with United Nations country team members. It has also built effectively on regional organizations, partners and networks to facilitate the effective implementation of disaster risk reduction initiatives, strategies and programmes. There are now a total of seven National Platforms operating in the SEE/CIS region, while several other countries have informed UNISDR that they are in the process of developing them. A further 11 countries already have HFA Focal Points.

Various activities have been held within the framework of the UNISDR global campaign Disaster Risk Reduction Begins at School, which was held from 2006 to 2007 to promote the integration of disaster risk reduction within education sectors while at the same time facilitating the development of disaster-resilient schools through safety programmes and the retrofitting of school buildings. One such project was a workshop organized by UNICEF in partnership with UNISDR on Earthquake-Safer Schools in Armenia. The key workshop objective was to increase the awareness of school administrators on school resilience to earthquakes and their actions before, during and after an earthquake, and to facilitate a dialogue between school administrators, government officials and international organizations. The workshop identified problems shared by schools in other CIS countries.

There are several positive aspects to the way in which a disaster risk reduction agenda is being pursued in the SEE/CIS region. Among them is the establishment in several countries of Ministries of Emergency Situations, which suggests a stage has been reached in the development of multi-sectoral platforms for disaster risk reduction. Furthermore, in several countries there is recognition that although current work on disaster risk reduction is limited efforts are nevertheless under way to integrate it more fully into disaster management structures, legislation and education.

In terms of the UNICEF presence in the region, education sector coordination mechanisms – under the overall coordination of the UN Humanitarian Coordinator – already function at country level in many crisis-affected countries and in immediate-onset emergencies. UNICEF usually plays the lead role in such country-level coordination of education interventions. One example is the UNICEF role in Tajikistan’s REACT, which comprises over 60 key national and international governmental and non-governmental organizations. But while it is clear that education has a pivotal role to play in relief, rehabilitation and reconstruction, there are major gaps in the focus to and support for education in disaster risk reduction, prevention and mitigation. It is therefore critical to embark on programmes and initiatives that would begin to address these shortcomings.

There are various examples across the region of how UNICEF has successfully integrated disaster risk reduction into its country programmes. From mine-risk education in Bosnia and Herzegovina to active disaster risk reduction among vulnerable communities in Kazakhstan as part of DIPECHO V and the mainstreaming of disaster risk reduction into education programmes in Turkey, UNICEF has demonstrated a growing emphasis on the provision of education and training to enhance prevention and preparedness for emergencies. The incorporation of disaster risk reduction into its life skills and child-friendly schools programming has helped facilitate this. Furthermore, as is the case in Kyrgyzstan where there may not have been any active disaster risk reduction in education in previous UNICEF country programmes, there are plans to mainstream disaster risk reduction into formal and non-formal education in subsequent programme cycles.

The SEE/CIS region has a history of vulnerability to disasters caused by natural and technological hazards, many of which have been of devastating proportions. Moreover, there is a discernible escalation of such disaster events, many of them attributable to hydro-meteorological factors, which is threatening sustainable development and poverty-reduction initiatives in disaster-affected countries. It is therefore imperative that disaster risk reduction must become an important aspect of poverty-reduction and general-development initiatives to both mitigate the negative effects of human activity on the environment while at the same time developing capacities to deal with them.

It is in this respect, and in recognition of the opportunities for cooperation and synergies that exist among agencies and governments in the SEE/CIS region, that the following recommendations are made to enhance the effectiveness and efficiency with which the challenges posed by education in disaster risk reduction are addressed.

**Recommendations**

There is clearly a need to more intensively promote disaster risk reduction themes at the level of education throughout the SEE/CIS region.

To achieve this, UNICEF should prudently explore further opportunities to encourage and support national governmental partners in mainstreaming disaster risk reduction issues into official educational curricula at the strategic level using the fruitful partnerships already established with national education authorities in the region. Simultaneously, the range of activities should complement projects already under way as adjustments and supplements to existing programmes targeting operational, community-level activities. Efforts should also be made to update existing education programmes with new developments, such as those relating to climate change.
Activities should facilitate integration of disaster risk reduction issues into life skills and child-friendly schools programming. Disaster risk reduction issues should be addressed as part of the target area for education in emergencies within basic education and gender equality programmes. Work to be undertaken in this area should also include reviewing and adjusting life skills-based education as a means of promoting more effective and efficient prevention education programmes. There are a number of quality issues that can be addressed:

- Improving the safety of school buildings – including a risk assessment of areas where schools are located and retrofitting schools in earthquake-prone areas – contributing to the care and protection of learners with schools as “protective environments”.
- Reducing risks associated with critical infrastructure by strengthening education and health infrastructure in hazard-prone areas through community-based initiatives.
- Integrating the disaster risk reduction issues prevention, mitigation and preparedness in training for teachers.
- Integrating disaster risk reduction issues into life skills curricula;
- Introducing appropriate knowledge, skills, attitude and behaviour in relation to disaster risk reduction – thus addressing curriculum relevance.

As part of, and complementary to, advocacy and overall policy interventions, the following key activities should be pursued:

- Promote the inclusion of disaster risk reduction knowledge in relevant sections of school curricula at all levels and the use of other formal and informal channels to reach youth and children with information.
- Promote the implementation of local risk assessment and disaster preparedness programmes in schools and institutions of higher education.
- Promote the implementation of programmes and activities in schools for learning how to minimize the effects of hazards.
- Develop training and learning programmes in disaster risk reduction targeted at specific sectors (development planners, emergency managers, local government officials, etc.).
- Promote community-based training initiatives, considering the role of volunteers as appropriate, to enhance local capacities to mitigate and cope with disasters.
- Ensure equal access to appropriate training and educational opportunities for women and vulnerable constituencies; promote gender and cultural sensitivity training as integral components of education and training for disaster risk reduction.

Close cooperation with UNISDR, using its experience and expertise to provide a coherent and coordinated approach among stakeholders, will facilitate the effective implementation of disaster risk reduction initiatives, strategies and programmes to enhance education sector reforms. By continually strengthening networks, creating new partnerships, sharing priorities and identifying gaps the achievements already made can be further consolidated.
USING EDUCATION TO REDUCE RISK

An overview of disaster risk reduction and how it is promoted through education in the SEE/CIS region